

**MICROSOFT OFFICE X FIRST LOOK AT NEW FEATURES**

# Macworld

**MORE NEWS, MORE REVIEWS**

## *OS X 10.1*

### The real deal

World's best operating system

- Digital cameras on test
- Adobe Illustrator 10 preview
- Expert Dreamweaver tips
- Film scanners reviewed
- Maya • Adobe InDesign 2
- Macworld Gamers' Club





**Simon Jary**  
editor-in-chief

Hooray! A workable version  
of Mac OS X is finally with us.  
But it's been a long time coming...

## The wait of the world

**M**uch has been written about Apple's almost laughably exhaustive and ultimately abortive attempts to update its Mac operating system during the 1990s. After several expensive failures, Apple poured all its efforts into a do-or-die project called Copland. It died, and Apple had to buy a company called NeXT that had something at least approaching a usable and modern operating system.

As you'll read all over this issue, Apple now has a capable successor to the Mac OS that has been a great friend to us since 1984 – if you count as a friend something that has witnessed more crashes than Murray Walker. There have been numerous updates (System 7, OS 8/9, etc), but no dramatic rewriting of the old code in over 15 years. The first release of Aqua-hued Mac OS X provided that rewrite – but it missed too many features and ran far-too slow for most of us to contemplate ditching the aged, but at least familiar, platinum-coloured OS. Mac OS X 10.1 isn't perfect, but it's less imperfect for today's world than even Mac OS 9.2.1.

With Mac OS X 10.1, Apple at last has the holy grail that it bought NeXT for in the first place. Strangely, the news of OS X 10.1 coincides with a rumour that its chief engineer, Avie Tevanian, is to quit Apple. This made me re-read some old interviews that Avie gave just before joining Apple in February 1997 as senior vice president of software engineering, reporting directly to CEO Steve Jobs. At the time, he was vice president of engineering at NeXT, reporting directly to its then CEO... Steve Jobs.

Tevanian first came to prominence at Carnegie Mellon University in Pittsburgh, where he was a principal designer and engineer of the Mach operating system, upon which NeXTStep – and therefore Mac OS X – is based. So, Avie's been with the core of OS X since its very beginning.

Of course, Mac OS X is not just Tevanian's work. There are scores of PhD-wielding software engineers working on the Unix-based operating system at any one time, but it's probably true that there's no engineer more indispensable to its intricate technologies than Avie.

In an interview in January 1997 – just before Apple's acquisition of NeXT was completed – Tevanian said he expected “a fully functioning system customers can use and deploy” in 12 months time. Taking version X 10.1 as something that customers can “use and deploy”, that 12 months stretched to an incredible 56! You don't have to be a mathematical genius like Avie to call that “late”.

Avie wished it could be even sooner: “Software projects are very difficult to get done sooner than you project. The challenge is always to not have them take longer. We have a good track record at NeXT at being close to our predictions. I'm confident we can do it.”

It's not really Avie's fault. The biggest hurdle was the level of backward compatibility with current Mac OS apps. Many of those lost 44 months must have been spent

getting the ultra-modern operating system to run Photoshop, XPress and Duke Nukem. We, the users, demanded it – and so must take some of the blame for the long delay between Apple buying NeXT and actually shipping X 10.1. Another massive hurdle for Tevanian's team was making the Intel-based NeXT technologies run on PowerPC. We didn't want to ditch our Macs for Pentium PCs, did we?

The delay hurt many of the early (high) hopes for the rejuvenated, modernized Apple. At the time of the NeXT buy, the Mac had a larger market share than Windows NT.

“We're going to go out the door next year with a product that may very well be a higher volume than Windows NT, because we have the Mac market to sell it to,” Tevanian told his interviewers back at the start of '97.

Asked whether Apple would soon surpass Microsoft, Avie got a little too excited: “Absolutely. We're already ahead of them. We have a product today. It just becomes execution for us. We've got to take all these things, put them into the products, and get them out there for the users.”

Avie wasn't wrong. Apple would have the superior product. It's just that the taking, putting, and “getting them out there for users” took one hell of a lot longer than he, or anyone at Apple, expected.

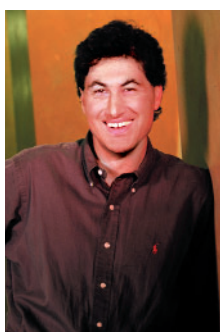
It's highly unlikely that Apple would have crushed Microsoft even if OS X – with all its powerful and robust Unix plumbing below the easy-to-use, attractive Aqua user-interface – had shipped within days of the NeXT buy-out. Apple has a long history of possessing the superior product, but nearly as long a history of ending up in second place.

Despite the good news that, after nearly five years of waiting (not including Copland), OS X 10.1 is here, we're not home yet. All those early adopters who have been working with OS X 10-10.0.4 since March, will have to wait a little longer before they get their hands on the latest version. As posts on *Macworld's* online forum suggest, not many people are able to get their hands on the free update CDs from Apple resellers. They have to splash out another £15 (handling and shipping costs, you understand) for a special CD, and that could take a couple of weeks to reach them.

More significantly, the full power of OS X won't be realized until major Mac software apps are optimized for it. The number of optimized (‘Carbonized’) programs is certainly growing, but without an OS X-native Photoshop or XPress, many Mac professionals will defer switching. The wait goes on. Adobe may release a Carbonized Photoshop at January's Macworld Expo in San Francisco. But the wait will be longer for Quark to pull its finger out, as the first version of XPress 5.0 will be for OS 9 and not OS X.

We've waited so long for this new version of the Mac OS that a few more months shouldn't upset us greatly. It will be a shame if, having succeeded in his quest, Avie Tevanian really is to quit Apple, but his legacy will likely be with us for the next 20 years... and then some after that...

**MW**



**“We should have a fully functioning system that customers can use and deploy in 12 months time”  
– Mac OS X creator, Avie Tevanian (January, ahem... 1997)**

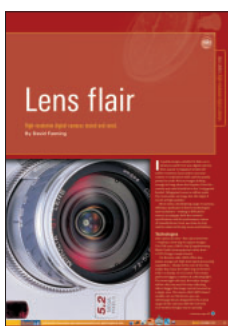




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# Macworld [www.macworld.co.uk](http://www.macworld.co.uk)

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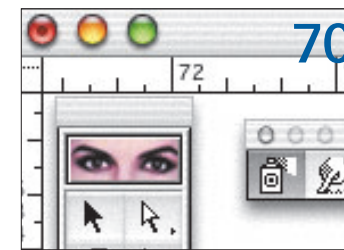
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## Subject: No more freedom

If the US is to be (rightly) castigated over Echelon [much rumoured, multi-government secretive Internet surveillance project], and the European Parliament is recommending the encryption of all email, could we please draw its attention to the UK's draconian RIP legislation – or am I liable to be charged for drawing attention to its existence?

Ted Treen

## Subject: iMac DVD/CD-RW mystery

Well, we didn't get an LCD iMac, and maybe we won't for a while. But as your comment on page 75 of September's *Macworld* shows us, most people want functionality as well as style from their computers. Maybe extra processing speed is better than a larger monitor, after all.

One huge disappointment is this: where is the combo DVD-ROM/CD-RW drive in the iMac? If it can be fitted into the iBook, why the hell not the iMac? It needn't mean a huge price increase either; the difference between the DVD combo iBook and the CD-RW model is just £170 (excluding VAT). Above all, it doesn't require any hardware redesign.

David Shaw

## Subject: Glad to be Mac

Whenever I read the national newspapers, I come across the PC problem pages, and feel so sorry for Windows users. They seem to have nothing but problems: can't get my email; can't get my scanner to work; numerous viruses; have to reinstall Windows (not easy or quick). Then it dawns on me, I have a Mac. How many

## Your Star Letter wins a copy of Tony Hawk's Pro Skater 2

This month we reward the best reader letters with a copy of Tony Hawk's Pro Skater 2 courtesy of Softline (01883 745 111). Yes, not just the Star Letter – all published letters win a prize! There are ten copies of Aladdin's Stuffit Deluxe up for grabs next month, so write to us with your Mac opinions, and you could win.

Email [letters@macworld.co.uk](mailto:letters@macworld.co.uk). Or write to: Letters, Macworld, 99 Gray's Inn Road, London WC1X 8UT. Please provide full name and contact details – or no prize can be given.

times have I phoned my ISP?

Once, to find out when it will have 24/7 unlimited Internet access for £15. Did I have to reinstall Mac OS 9? No. Did I phone Apple Technical support? Yep, to see if they could replace the Apple-logo stickers that my daughter lost. Is Apple in financial trouble? No. Is my Mac unreliable? No.

Oh, to be a PC user: it's all problems, problems, problems...  
John Zeleznjak

## Subject: Apple of my ire

I am in the process of buying a Power Mac G4 build-to-order computer through a third-party dealer. At the time of placing the order, Apple quoted a build-time of 21-31 days. This seemed excessive – but I went ahead with the order, anyway.

With the 31 days nearly up, I telephoned my dealer to get a progress report. Imagine my anger and surprise when he told me that, on chasing Apple for a firm delivery date for my computer, he was told: "It will take as long as it takes. If you don't like that, perhaps you'd like to cancel the order."

Just who the hell does Apple think it is? It has a monopoly on the supply of Macs. Its arrogance seems to know no boundaries!

I have been using Macs for almost ten years, both in work and at home, and I have never come as close as I have today to switching to another platform and another computer manufacturer. Well done, Apple!  
John Wilson

## Subject: Beastly BT

Tim Smith's comments in the October issue of *Macworld* made for interesting reading.

I lost a total of seven days Internet access through BT Internet at the beginning of this year, and, in trying to get the problem sorted out, I discovered that BT gives nothing but aggravation, aggression and lies.



## Star Letter: iMacs high max

Thanks for "Rev up your iMac". It got me going on a problem that, as an owner of a 1999 iMac, I thought was going to be resolved only by purchasing a brand-new Power Mac G4. Apple has always told us that 128MB RAM is tops. Forget it. I am writing this from a 233MHz Rev B machine that boasts 512MB of RAM thanks to *Macworld* and users on the [www.apple.com](http://www.apple.com) discussion forum. But neither your feature nor the contributors to the Apple Web site answered all my questions, so the following may be of help:

- 1 You can upgrade a Rev B to 512MB RAM.
- 2 SODIMMS purchased from [www.crucial.com/uk](http://www.crucial.com/uk) are low profile, and will fit either upper or lower slots. So, at current low memory prices, go for it!
- 3 Provided that you take the basic precautions regarding static, the most challenging part of upgrading the lower RAM slot is getting the the cage off the daughter board. Instructions about adding RAM are in Help, and [www.theimac.com/ram](http://www.theimac.com/ram) provides help on accessing the lower slot (ignore the advice about maximum RAM, though).

Go for the upgrade that Apple always told you wasn't possible!  
Rohan Barnett



I dumped BT, and now subscribe to Tiscali. Its unmetered evening/weekend tariff is currently £2 cheaper than BT Internet. Even better, however, it does not disconnect subscribers automatically every two hours, so big file downloads are quite possible. Oh, joy!

Nick Kurn

## Subject: Disc rage

As a Power Mac G3 and 7600 user, I am tired of being unable to use software provided on the free CD that comes with *Macworld*. The latest edition has a tank game that I am unable to use because of the absence of 'gllibrary'. Your technical people told me to go to the Apple Web site, to download the software, but warned me that it was difficult to find. It is, in fact, impossible to find.

Why put this software on the disc if it is unlikely that many readers will be unable to make use of it? Selling more magazines is obviously your aim, but this is surely misrepresentation.

Pete Hardy

**MW:** Macworld aims to support as many of its readers as possible, and obviously includes mainly new software. Older Macs will need to be updated to run some of this software, and some very old models won't be able to run some programs at all. Many games, as you point out, are based on the OpenGL 3D-graphics standard, and so require up-to-date system software (hence your need for OpenGLLibrary). Macs running older operating systems do not support OpenGL, and may also require more modern video cards to properly run the latest games. In the CD pages, we point out the minimum specifications that featured software requires.

We can't *not* include the latest software because some readers use older, non-upgraded Macs – that clearly wouldn't be fair on the majority of readers who own more modern Macs. But we do strive to include much software that will run on older Macs, and we believe every CD brings a wealth of content to any reader whose Mac has a CD drive. **MW**



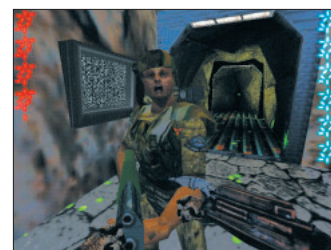
This month's cover CD features demos of two of the hottest games to hit the Mac in ages, 30-day trials of Corel KnockOut and Nisus Writer, plus all the latest demos, shareware and updaters. Over to Vic "Predator" Lennard...

## MAIN ITEMS

**Aliens vs. Predator demo**

Chase, hide or advance in the most nightmarish, chillingly detailed futuristic environment your mind could ever imagine. Choose to be a Colonial Marine, a Predator or an Alien as you make your way through horrifyingly suspenseful environments. One wrong move turns you from hunter into prey. The demo allows you to play part of the game and includes the highly atmospheric optional music files.

Requires a minimum of a 233MHz G3 running Mac OS 8.6 with OpenGL and 32MB available RAM.

**Tony Hawk's Pro Skater 2 demo**

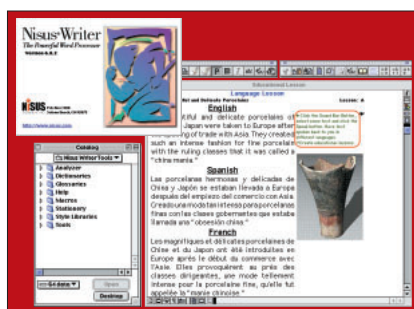
Ollie, grind and skate the way you always knew you could in the ultimate extreme sport experience. Go head-to-head on terrain that would make even a novice skater drool!

The demo allows you to play an unlimited number of two-minute skate sessions. Requires a minimum of a 233MHz G3 running Mac OS 8.6, OpenGL and 32MB available RAM.

**Corel KnockOut 1.5 30-day trial**

Mask images that were once thought to be impossible to mask successfully. For imagery such as fine wisps of hair, blurred or out-of-focus edges, and other transparent or translucent objects, Corel KnockOut 1.5 produces seamless composite images that preserve the fine details. Use it as a complement to Photoshop and achieve superior masking results.

The fully functional trial includes tutorials, but times out after 30 days.

**Nisus Writer 6.0.2 trial**

A complete multilingual writing solution, offering a unique, creative experience, unmatched by any other word processor. Outstanding features include unparalleled find-&-replace, unlimited undos, non-contiguous selection, customizable keyboard menu equivalents, complete graphics creation and a powerful macro language. Thirty-day trial.

**XChange International Corner**

XChange International, which specializes in QuarkXPress XTensions and plug-ins for Photoshop, Acrobat & InDesign, highlights products each month with demonstration versions available for you on the cover CD.

**DreamSuite**, a visual-effects application and plug-in for Photoshop, has just been released and provides useful photo-realistic visual imaging solutions to give design projects extra impact. Also included are three utilities for QuarkXPress. **FontXpress** enables you to collect all fonts required for output automatically while **Imposer 2** provides a simple-but-effective imposition in 2-up and 4-up configurations from a single QuarkXPress document. Finally, **MathMagic** brings a fully-featured equation editor to QuarkXPress.

Visit [www.xchangeuk.com](http://www.xchangeuk.com) for more info.



# Cover CD

## NOVEMBER 2001

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### INSTALL

Before you start working your way through the software on our CD, go to the System Utilities folder and make sure you install the following:

#### ■ Acrobat Reader 5

Install this version to be able to read many of the on-screen manuals.

#### ■ Stuffit & RealPlayer

Version 6.0.1 of Stuffit Expander and DropStuff is included as is the installer for RealPlayer 8.

#### ■ System tools & ATM Lite

The CD also carries the latest version of InternetConfig, UnZip 5.32 and ATM 4.6.2 (required for Suitcase).

#### ■ QuickTime 4.1.2

Some programs require QuickTime 4.1.2. This can be downloaded from [www.apple.com/quicktime/download](http://www.apple.com/quicktime/download).

## INSIDE MACWORLD



### ComicBase 6

Professional inventory system with search feature for comic-book collections. Creates price labels and a wide variety of reports. Demo.

### DragThing 4.1

Application dock designed to tidy up the icons littering your desktop. Same version runs in Classic mode or native under Mac OS X. Shareware.

### PrintToPDF

Printer driver that creates PDF files from within your applications. Includes a hot link feature for URLs. Shareware.



### DreamSuite

Features 18 premium visual effects providing photo-realistic results. Demo.

### Contacts

Powerful yet simple-to-use contact-management system with mail-merge and output capability for letters, faxes and emails. Demo.

### NavBar Builder 1.0

Easy way to create navigation bars for Web sites – just select the style and how many buttons. Classic and Carbon versions. Shareware.

### plus...

Astrology 3.0;  
ChaosMaster 1.2.1 demo;  
DocuSlim 2.1.4 demo;  
FaxExpress network trial;  
mysql 3.23.41;  
On Guard 3.3.5 trial;  
Pseudo 1.0.1; threads 2.3.4.

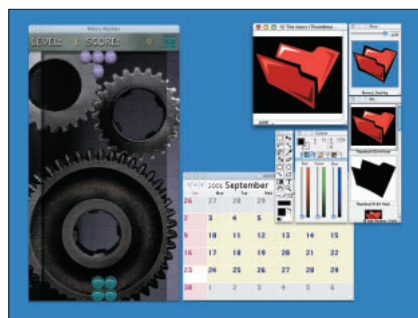
## CD CATALOGUE



Courtesy of Mark Pirri's superb DiskTracker program, Macworld brings you a searchable catalogue of all our CDs from 1997 to 2001 – over 240,000 files! This will grow month by month to allow you to find any file you want, without wearing out your CD-ROM drive. The latest version of DiskTracker (2.1.1) is also included – don't forget to register if you find our library useful.



## OS X HEAVEN



OS X Heaven – your monthly one-stop shop for the latest OS X-specific software. Utilities, demos, shareware and games – OS X Heaven features the best Carbonized goodies for the Mac's new OS.

This month 20 demos and shareware utilities include **Iconographer 2.1**, the excellent icon editor, now running native under Mac OS X, **uCalendar 2.5**, a scheduling calendar with reminders, **Audiocorder 3.1.0** for sound recording, and **Classic Menu** that puts the multi-coloured Apple logo back in the top left corner. Nice!

There are also five Carbonized games including **Mike's Marbles**, tetris with a difference, **Mike's Cards**, with its many variants, and **ZedNought**.

## SERIOUS SOFTWARE *includes*



### Effects Packs 1-3 trials

Effects Packs 1-3 offer a total of 30 video effects and transitions including video noise, jittery TV, scoreboard, texturizer, invert HSV, strobe, filter factory, fractal images and six Hollywood-style compositing tools. They work with any video-editing application that supports QuickTime video effects on Mac OS 8/9 and Mac OS X, include **Movie Player Pro**, **QuickTime Player Pro**, **Final Cut** and **Adobe Premiere**.

All three packs are shareware, and are fully functional for 45 days. However, the trial versions lack AltiVec support – without which the effects run much slower on G4-based computers.



### T-Racks 24 demo

Built with actual physical models of tube circuitry, T-Racks 24 offers a complete workstation made of four discrete processors: a state-of-the-art six band parametric EQ, a classic stereo tube compressor/leveler, a multiband master stereo limiter, and a soft-clipping output stage. It can vastly enhance mix frequencies and broaden the stereo image as well as boost or precisely level the dynamic range. All this, while adding the beautiful warmth and space of the tube-devices it emulates.

The demo cannot process and adds random white noise to the master. Suggested system: 233MHz or faster PPC604e, G3/G4 PowerPC with 64MB available RAM.





# Cover CD

## NOVEMBER 2001

### FAULTY COVER CD-ROM?

• If your cover disc is broken and you want a replacement CD, please contact Kelly Crowley, on 020 7831 9252, or email at [kelly\\_crowley@macworld.co.uk](mailto:kelly_crowley@macworld.co.uk).  
• If your cover CD doesn't seem to work as it should, please check you have read all the instructions on the cover disc pages carefully first. If it still doesn't work, then please email Woody Phillips at [woody@macworld.co.uk](mailto:woody@macworld.co.uk).



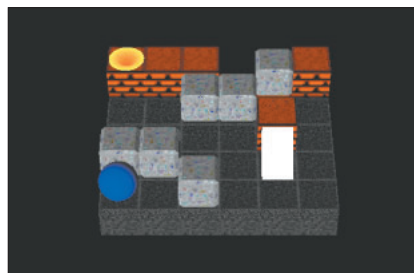
## GAMES WORLD



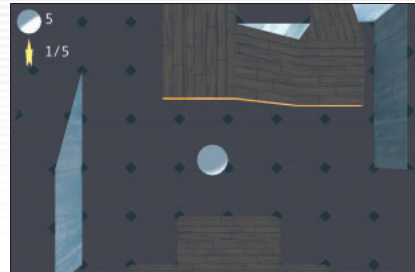
### ELM demo

English League Manager (ELM) is a soccer-management game in which the aim is to lead your team to the League Championship and both FA Cup and League Cup victories within the same season. Play takes place in the English football league, with an option being to manage as a player/manager.

You can play this unregistered version for as long as you wish but it allows you to only manage one club (Barnsley) and to play the first 50 days of a season. The full version allows unlimited match play, saving of games, and incorporates a database editor for updating teams and players. Additionally, the full version also allows you to play The Manager's Game and to load custom games.



## DEMOS & GAMES



This month, our Top 10 Shareware Games folder has a nice mix of new games and latest versions. For the strategy fiends among you there's **DeadEnd 3D 1.0.1**, a sokoban-style pushing game, **SillyBalls 1.0**, a nice play on the old wooden tilting puzzle, and two minesweeper-style games in **Demineur 1.5** and **Minez 1.0**.

If card games are your poison, there's **A Farewell to Kings 2.0.1**, a solitaire card game that'll keep you going for hours.

And for those of you who want the latest versions of your favourites we've got **Mike's Cards 1.8a**, **David's BackGammon 4.2**, **Mike's Marbles 1.1a**, **Colibricks 1.3.2** and **MacSnake 1.7.1**.

(Top row) **A Farewell to Kings** & **SillyBalls**  
(Middle) **Colibricks**  
(Bottom) **DeadEnd 3D**

## ALSO ON THE CD



### COMMS & INTERNET

Nine programs including:  
**HTML Optimizer 5.5**  
**HTML OptimizerPlus 3.5**  
**NotifyMail 4.1.0**

### EDUCATION

**Language Assistant 2.5**  
**QuickTest 1.8**

### FONTS



**FontBuddy 2.2**  
**FontCat 1.3.6**

### GRAPHICS

Five applications including:  
**Compositor 1.9.5**  
**PhotoGrid 2.11**

### ICON UTILITIES

**IconCalculator 1.0.4**  
**Iconographer 2.1**

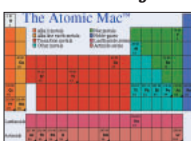
### INFO



**ATPM 7.09**  
**CuliDataBase 5.9**  
**Extension Overload 5.9.1**  
plus eight utilities for developers

### MATHS & SCIENCE

Five items including:



**Atomic Mac 5.2**  
**earthbrowser 1.5.4**

### SOUND & MUSIC

Five programs including:  
**Amazing Slow Downer 1.10**  
**Audiocorder 3.1.0**  
**MP3 Strip 1.3.2**

### UTILITIES

Nine categories with 36 useful tools for your Mac including:  
**24u SimpleDialog Plug-In**  
**A-Dock 2.4.1**  
**AddressBook 4.2.6.2**  
**Applimac Clean Text 2.1**  
**ClickCopy 1.0.1**  
**Codec Calculator Lite**  
**CoolCam 2.0**  
**CurrencyJuggler 2.0.1**  
**File Buddy 6.1.3**  
**File Freak 3.4**  
**FileGeek 3.2.1**  
**FreeSpace 1.5.2**  
**Ghost Menu 1.1.0**  
**Jon's 9.2 mods**  
**nQuick 2.1**  
**ramBuncious 1.6.2**  
**Search & Rescue 3.0.1**  
**ShadowKeys 1.2.1**



**SwitchBack 3.4.1**

**textSOAP 3.0.4**  
**Tiff-Sight 1.2**  
**Thermograph 1.3.4**  
**UTC Display**  
**Zipt 2.1**

### UPDATERS

This month's dedicated updaters folder includes over 30MB of patches to bring many popular applications bang up-to-date, including:  
**APS PowerTools 6.4.2a**  
**CatDV 2.0.1**  
**CineWave**  
**DiskWarrior Exten 2.1.1**  
**FILTERIT 4.0.1E**  
**FlightCheck Classic 4.2**  
**FlightCheck Collect 4.2**  
**lomegaWare 3.0.4**  
**ISD Storage Driver 3.0.2**  
**Macally iShock 2.0.5**  
**MacDraft 5.0.4**  
**Nisus Writer 6.0.2**  
**Norton AntiVirus 5-7 (9/01)**  
**Virex (4/9/01)**  
**VirusBarrier (9/01)**  
**VSE Search Engines 9/01**

## DON'T MISS...

### ■ Cool Extras

**FloatingNotes**  
Permanently visible notes  
**Virtual Desktop 1.9.5**  
More desktop space  
**Latest icons**  
Over 50 new goodies!



### ■ Mac ISP

Access offers from AppleOnline & Moose Internet Services.

### ■ Netscape/Internet Explorer

Complete packages for Netscape 6 (with 6.01 update) and IE 5.

### ■ Plus...

... many thanks to Simon Youngjohns for our CD icons.

## SHAREWARE



Shareware is a distribution method, not a type of software. It makes fitting your needs easier, as you can try before you buy. Shareware has the ultimate money-back guarantee – if you don't use the product, you don't pay for it. If you try a Shareware program and continue using it, you are expected to register. Support shareware authors so that they continue to provide high-quality programs for the Mac.

page 20 



# LiveSlideShow

Macworld November 2001 2nd CD



**totally hip**  
Software Inc.



Find the **FULLY WORKING** version of LiveSlideShow on this issue's second CD!

Macworld LiveSlideShow Serial Number:  
XLSS1-1003772R

LiveSlideShow is the easiest way to take your digital photos and transform them into dazzling, powerful presentations.

Simply launch LiveSlideShow and import your digital images. LiveSlideShow is full of features that will help make your digital photographs sparkle. Place your images in the order you want them to appear, then bring them to life with preset effects and transitions or create your own unique transitions and photo effects.

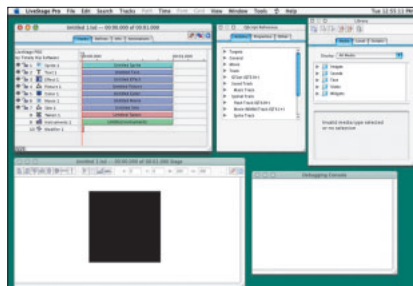
LiveSlideShow's built-in voice recorder will allow you to create voiceovers for each of your slides. This is perfect for adding audio descriptions for a business presentation, or describing your recent vacation. A photo of your baby's first steps can now have his or her own voice attached.


Add buttons that link to other sites on the Internet. You can even add controller buttons so your visitors can determine how your slide show will play back.

[www.totallyhip.com/hi/products/lss/index.html](http://www.totallyhip.com/hi/products/lss/index.html)

Requires: PowerPC, 333MHz or faster, Mac OS 8.6 or later, QuickTime 4.1.2

Plus two great useable demos from Totally Hip.

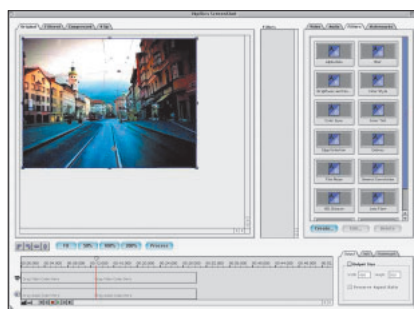


 **LiveStage Professional** is an important tool for anyone serious about providing the best user experience for video, audio, or Virtual Reality over the Internet, LAN, or CD.

QuickTime's architecture is visually represented in LiveStage Professional's clear user interface. Drag-&-drop functionality throughout the LiveStage authoring environment enables developers to create professional and engaging content quickly and easily. It employs its own programming language called QuickTimeScript, or QScript, that even non-programmers can easily embrace with the click of a mouse through a comprehensive and easy-to-use reference library.

Requires: PowerPC, 333MHz or faster; Mac OS 8.6 or later; QuickTime 4.1.2.

This demo doesn't flatten movies, and does not permit saving of LSP projects. It's totally usable for small projects, but not practical for larger projects.



**HipFlics** is the product for anyone involved with presenting video content over the Web or email.

HipFlics enhances and compresses your video for Web delivery. File size can be reduced over 50 times with HipFlics. You can add additional effects without having to re-enter iMovie, and you can preview your work every step of the way to ensure you get the results that you want.

Requires: PowerPC, 333MHz or faster; Mac OS 8.6 or later; QuickTime 4.1.2.

This demo is totally usable if you don't mind the Totally Hip logo watermarked on your movies.



As a special bonus on this CD, we feature the demo version of MacSoft's **Tropicco**.

You, the newly installed dictator of a Caribbean island, must create a life of prosperity and happiness for your people. Build farms to feed them, tenements to house them, pubs to lift their spirits and churches to save their souls. Follow a socialist path of factories, mines, and fishing, or chase capitalist dollars by building resorts to lure tourists.

Requires: 233MHz G3 or faster, OS 8.6 or later.







# OS X 10.1 release is Apple watershed



## Live! Later

Apple has rescheduled its QuickTime Live! Conference, which was planned to take place October 8-11 in Beverly Hills, California.

It's a major event for Apple and the QuickTime developer community, at which Apple frequently launches QuickTime updates. The show usually features keynote speeches, conferences and product showcases. The postponement is a reaction to September's terrorist attacks in the US. Phil Schiller, Apple's vice president of worldwide product marketing, said: "Many QuickTime developers and customers asked us to reschedule QuickTime Live to a less stressful time."

The event will now be held from February 10-14, 2002 at the same venue.

Apple made all its product announcements at Seybold, after it cancelled its European Apple Expo in Paris following the September 11 terrorist attacks on New York and Washington DC. Excusing the move, Jobs said: "We're sorry to disappoint our users and developers, but their safety is our primary concern."

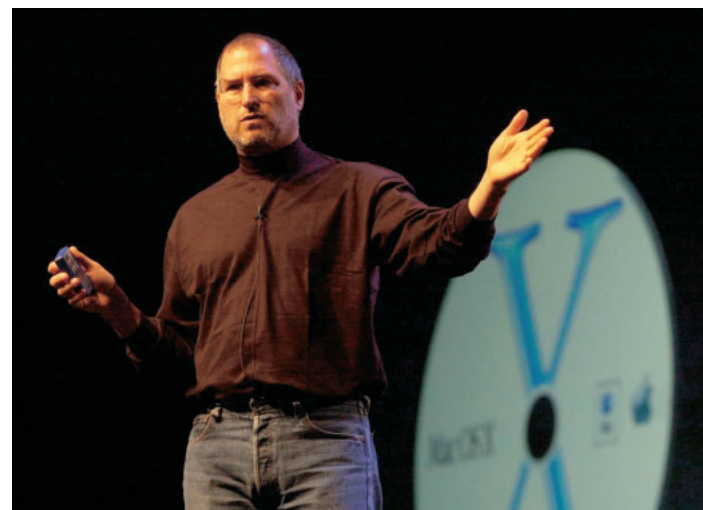
OS X 10.1 is the first major upgrade to Apple's next-generation, Unix-based operating system. Jobs told Seybold: "This is the mainstream release. We're halfway through the transition. OS X 10.1 is incredibly fast, includes a refined Aqua interface, has unrivalled support for more digital devices than any other operating system on the planet, and, best of all, the upgrade is free."

Jobs went on to praise Apple's OS development team. "Most programmers go on vacation after a major release," said Jobs, "but Avie Tevanian and his team have kept working to improve Mac OS X."

Jobs said Mac OS X has now already received one major update – before Windows XP even ships.

OS X 10.1 is a performance-orientated upgrade, and Apple claims applications will launch up to three times faster than in version 10.0.4. Aqua menus and window re-sizing are both up to 500 per cent faster, and file copying is twice as fast as before.

Jobs was joined on stage by Apple vice president of worldwide marketing, Phil Schiller. Schiller



**'OS X 10.1 is fast, has a refined Aqua interface... and, best of all, it's free.'**  
Apple CEO, Steve Jobs

and other senior Apple figures demonstrated Mac OS X 10.1 (and OS X Server 10.1), iDVD 2, AppleScript Studio, and Microsoft's Office v.X. iDVD 2 ships in November.

"Mac OS X 10.1 was code-named Puma because it's one fast cat," quipped Schiller.

### Expo follow-through

The update implements all the advances demonstrated at July's New York Macworld Expo. The Dock can be repositioned to the bottom, left or right-hand sides of the screen. The top Menu bar now offers swift access to volume level and display controls, and date and time. File-extension management has seen significant improvement, and the OS will now both play and author DVDs.

The upgrade furthers Apple's vision of the Mac as the hub of a "digital lifestyle". On this theme, OS X 10.1 introduces Image Capture, an application that downloads and enhances images from most digital

cameras. Apple's own iTunes and iMovie 2 now come on the OS X 10.1 CD, rather than being free downloads.

Performance on mixed networks has been improved by 10.1, with the introduction of new networking protocols. It will now link up to virtually any network, Apple claims.

10.1 also sees an improved iDisk and more print drivers built-in for many inkjet and PostScript printers from manufacturers including HP, Canon, Epson, Lexmark and Xerox. Other performance boosts come from an updated OpenGL, and support for NVIDIA's GeForce 3, and ColorSync 4.0.

Ken Bereskin, Apple's director of Mac OS product marketing, demonstrated at Seybold how application icons in the Dock can be used in 10.1 to control specific applications: users can now control iTunes, for example, without running the application. This is done by clicking the iTunes Dock icon and selecting the desired command from

the menu that pops up. To have applications behave in this way, developers need only implement an API that Apple is offering that can add this feature to any application.

OS X 10.1's AppleScript support has been improved. Sal Soghoian, Apple product manager for AppleScript, explained: "Using a number of industry standards, the company extended AppleScript's simple commands to Internet sites that host Web services. When a user creates an AppleScript command, the operating system then wraps that in XML (Extensible Markup Language) and sends it out on the Internet."

He added: "A Web service takes that request and returns an XML-based response, such as a description of weather conditions. This then appears on the user's desktop."

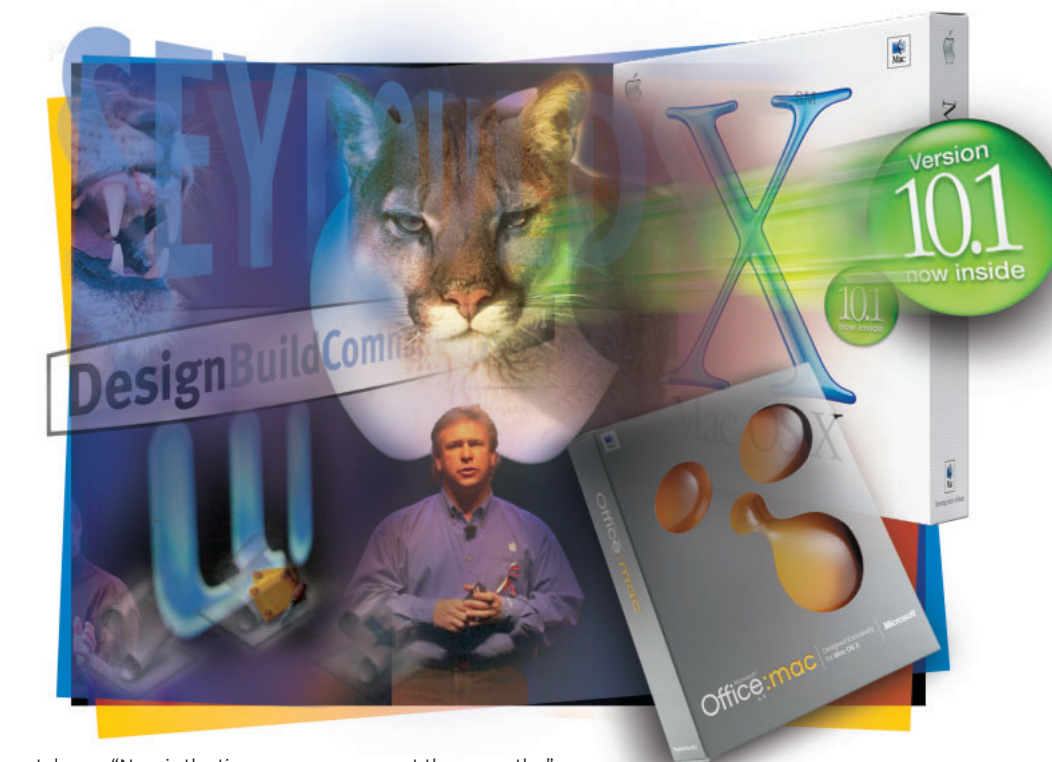
OS X 10.1 is the first major desktop operating system to ship with access to a range of Web services built-in.

Bereskin told *Macworld*: "This is real. It's a technology that you can put in the hands of people to create real solutions."

Apple discussed a brand-new, powerful product – AppleScript Studio, that will be available by the end of the year. This combines AppleScript with Apple's IDE (Integrated Development Environment) Tools Project Builder and Interface Builder. "This makes AppleScript a peer of Java and Objective C," said Soghoian.

Scripters can create professional scripts that take advantage of everything AppleScript offers: end-users get an Aqua interface to run the script.

Soghoian demonstrated a complex script, built with AppleScript Studio, in which the script pulled data from FileMaker Pro and placed it into Adobe InDesign, creating a real-estate



catalogue. "Now is the time for scripting on Mac," he said."

### Music to our ears

As reported in *Macworld* last month, OS X 10.1 also bangs the drum for musicians. Apple claims the updated OS provides "the most advanced audio architecture delivering high-resolution 32-bit/96kHz audio, multi-channel support, low-latency performance, and built-in MIDI".

A flood of application announcements took place at Seybold, indicating that the applications for OS X are reaching critical mass. Until now, many Macintosh users have been waiting for optimized applications to reach OS X before migrating.

Jobs said: "There are already 1,500 applications shipping for OS X, and more of the ones we use every day are going to ship OS X-native in the

next three months."

One of those core applications is Microsoft Office v.X, which ships in November (see page 87). Jobs told Seybold: "I think Microsoft could end up being the poster boy for what an OS X app should look like."

The upgrade is available now. Existing OS X customers will be able to upgrade for free at participating authorized Apple resellers. The deal is part of Apple's Instant Up-To-Date offer, which runs until October 31, or while stocks last.

UK users will also be able to upgrade through Apple's Mac OS Up-To-Date programme, for a shipping and handling fee of £14.95.

Users updating will receive a CD copy of OS X 10.1, updated developer tools, and an additional CD containing Mac OS 9.2.1. Mac OS X 10.1 costs £99 (inc VAT). **MW**  
Jonny Evans and David Read

**"Mac OS X 10.1 was code-named Puma because it's one fast cat."**  
Apple vice president, Phil Schiller

## Big hitters queue-up for UK show

Adobe will exhibit at MacExpo 2001, the independently organized event for the UK's Mac community.

Adobe will show products including InDesign 2.0 and Illustrator 10 (see page 28). The company has booked the stand vacated by Quark, which withdrew from the event last month.

Apple, Epson, HP and Macromedia have also booked space. In the largest space, Apple will exhibit its hardware

and software solutions, including Mac OS X 10.1. The company plans to bring its Solutions Theatre to the event, and to run a seminars programme.

Adobe's incoming UK and Ireland marketing director, Mark Floisand told *Macworld*: "It's great that Apple's attending the show. They must be there for a reason."

"Adobe is delighted to be exhibiting at MacExpo. We're looking forward to a strong show."

With the cancellation of Apple Expo Paris, the show becomes Europe's only general-interest Mac event. Microsoft will be there to preview Microsoft Office v. X for Mac (see page 87).

MacExpo 2001 organizers have released an extra 3,000 free tickets ([www.macexpo.co.uk](http://www.macexpo.co.uk)). The event runs from November 22-24 at Islington's Business Design Centre in London N1.

The MacExpo 2001 show guide will be produced by *Macworld*. It will



MacExpo 2001

appear in the Expo issue, on sale from November 8.  
Jonny Evans



Queue wait  
Seybold show-goers  
queue for Apple  
CEO Steve Jobs'  
keynote speech.







# Quark rides XPress train



**'XPress 5.0 will give better tools for print and familiar tools for Web' – Jürgen Kurz, Quark vice president of product management**

**Q**uark luminaries, Jürgen Kurz and Brett Mueller, outlined the company's vision of publishing at Seybold, and walked show-goers through a beta of QuarkXPress 5.0, the update to its industry-standard DTP application.

Breaking with tradition, Quark released a beta version of QuarkXPress 5.0 (for US systems) in the days before the event. International-English betas will be made available "when our engineers judge the software stable enough for beta testing", a Quark representative told *Macworld*. The beta is available for download from Quark's US Web site ([www.quark.com](http://www.quark.com)).

Kurz, Quark vice president of product management, said: "I've talked to people all over the world about the issues facing publishing. The key issue is profitability. Advertising rates are down by up to 70 per cent, publishers are not launching new publications, and are mostly focusing on their primary publications and cash cows. Now is the time to re-use content, and Quark's strategy is to provide the ability to re-purpose content automatically."

He stressed the same message when he spoke with *Macworld* at Total Publishing (September 2001 issue), saying many publications have fewer people and are requiring more from existing staff members.

One of the key goals of QuarkXPress 5.0 is to provide familiar tools to enable designers to create, manage and deliver content across



## Class act

*Seybold show-goers in the Apple Classroom experiment with new OS-X-based applications, which did not include QuarkXPress.*

# SEYBOLDSF

Design Build Communicate 2001

a variety of formats and media.

"XPress 5.0 will give better tools for print, and familiar tools for Web," said Kurz.

Mueller, senior product manager for desktop products, confirmed the main targets for XPress 5.0 to be productivity and efficiency.

## Independence aim

Mueller said: "The final version will

export text and graphics to a Flash file. The goal is media independence. You can move from print to other media without adding staff."

In a dig at Adobe, Kurz said: "We're increasing the number of standards supported by XPress, and are not tied to any specific standards. This is our strength over Adobe."

Quark sources have already confirmed that XPress 5.5 – a Mac OS X-native version – is in development.

Kurz ended the keynote by reminding his Seybold audience that XPress is 20 years old.

"While we're not public company, we're extremely healthy, and will be around in another 20 years." **MW**

**David Read**

## Suitcase 10 packs X punch

Extensis is to release a Mac OS X upgrade for Suitcase 10 on November 19.

The update to the font-management application will be free to registered owners of Suitcase 10 from the Extensis Web site. ([www.extensis.com](http://www.extensis.com)).

Extensis general manager Craig Keudell said: "Extensis is committed to being the leading font-management provider for OS X. Suitcase users will benefit from OS X's direct support for OpenType and TrueType fonts." **MW**

## Seybold takes up Paris slack

**W**ith the cancellation of Apple Expo Paris, Seybold Seminars San Francisco 2001 became the main Apple-related event for September. Most companies with new or updated products chose to announce these at the same time as Apple Expo would have taken place.

■ Following its keynote speech, Apple released the AppleWorks 6.2.1 updater for Mac OS X 10.1 users. This adds performance and compatibility enhancements to the application. Installation requires the OS X 10.1 and AppleWorks 6.2 update be installed. ([www.apple.com/appleworks](http://www.apple.com/appleworks))

■ Roxio released Toast 5 Titanium for Mac OS X Preview 2, the second public-beta version of its industry-standard CD/DVD-authoring solution. This beta requires OS X 10.1, and is available only to registered users of Toast 5 Titanium.

■ Wacom Europe released Mac OS X 10.1 beta drivers (version 4.70-7) for its graphics tablets. These are available for download. P&L Software announced Mesa 3.0.4, an upgrade to its Mac OS X spreadsheet software that can generate reports, and import Mesa 2 files from the NeXTStep and OpenStep platforms.

Canto's announcements included Cumulus 5 Enterprise Edition for Mac OS X, and Idee's Espion Visual Search, which performs searches within Cumulus catalogues.

Palm, meanwhile, revealed that it plans to complete its Palm Desktop application for Mac OS X by the end of the year.

Adobe also came in for a great deal of support at Seybold, with many companies announcing plans to release plug-ins for InDesign 2.0 (see page 28). **MW**







# G4 power points

**A**pple's dual-processor 800MHz Quicksilver Power Mac G4 is the fastest Adobe Photoshop workstation ever, according to Macworld Lab tests. But the performance tests prove that it is still eclipsed by its single-867MHz chip sibling at non-multiprocessing-optimized tasks.

Several major applications – such as Photoshop and Cinema 4D XL – are optimized to take advantage of Macs bearing more than one processor. The 800MHz DP is up to 66 per cent faster than the 867MHz Power Mac on certain Photoshop and Cinema 4D tasks.

Macworld Lab tests also proved that the DP holds an

advantage over the single-chip G4 in encoding MP3s via Apple's own iTunes. In Macworld tests, we found it to be 27 per cent faster than the top-end G4, and nearly 57 per cent faster than the old 733MHz G4 Power Mac.

However, the 867MHz G4 Power Mac is 6 per cent faster overall than the two-processor 800MHz Power Mac, and actually beats the DP model in tasks that are not optimized for multiprocessing. In these cases (for example, Photoshop's RGB-to-CMYK conversion), it's a straight 867MHz vs 800MHz contest.

So, is it worth having more than one processor in your Power Mac? If you're a heavy user of Photoshop or



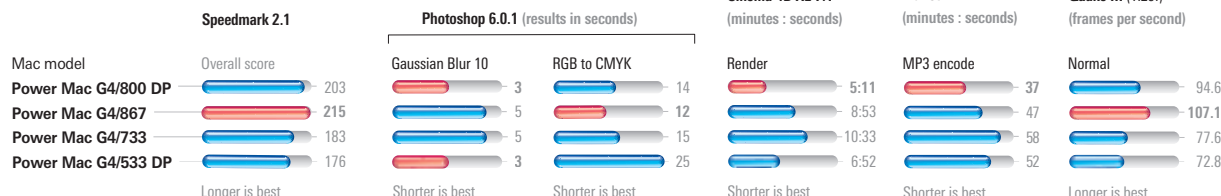
Cinema 4D XL, two is definitely better than one. You can't complain about 70 per cent performance boosts when it most counts. But the single-chip 867MHz Power Mac is faster on general tasks, as well as £700 cheaper!

If you're thinking of switching to Mac OS X within the lifetime of your new Power Mac, you should definitely consider the DP model, as the more modern OS X takes advantage of both processors for faster performance, even on non-optimized applications. **MW**



## Dual processor: faster for optimized apps only

Best results in test.



Speedmark 2.1 scores are relative to those of an iMac 350MHz (1999), which is assigned a score of 100. Photoshop and iTunes scores are in seconds. Cinema 4D XL scores are in minutes:seconds. Quake scores are in frames per second. We tested the reference systems with 256MB of RAM, a default system-disk cache, and virtual memory enabled except for Photoshop. The G4/867 shipped with Mac OS 9.2, and the G4/800DP with Mac OS 9.2.1. The G4/533MP and G4/733 were tested with Mac OS 9.1. We set displays to 1,024-x-768-pixel resolution and 24-bit colour. Photoshop tasks used a 50MB file. Photoshop's memory partition was set to 150MB and History set to minimum. Cinema 4D XL rendered a model at a resolution of 640-x-480 pixels with oversampling set to 4 by 4. We tested MP3 encoding with an audio-CD track that was 9 minutes and 25 seconds long, and converted it using the Better Quality setting of 160Kbps in iTunes 1.1 from the hardrive. We tested Quake 3 v1.29f at a resolution of 640-x-480 pixels, with graphics set to Normal. For more information on Speedmark, visit [www.macworld.com/speedmark](http://www.macworld.com/speedmark). – Macworld Lab testing by Ulysses Bravo

## 10.1 Server switch

**A**pple has introduced a new Power Mac G4 Server, replacing its previous range of three models with a single 733MHz G4 processor. Apple has also updated Mac OS X Server to version 10.1, bringing all the speed and performance improvements of OS X 10.1 to its server-software product. All previously available servers (including the

multiprocessing 533MHz G4) have been withdrawn from Apple Stores in the UK, Europe and US.

The 733MHz G4 Server offers 256K of L2 cache, 256MB RAM, 80GB hard drive, CD-RW drive, and NVidia GeForce2 MX graphics card. A SCSI card is also available with the package for an extra £40. The 733MHz G4 Server costs £1,999 (ex. VAT), and also ships with Mac

OS X Server software.

Mac OS X Server is the only server platform that lets Mac, Windows, Linux and Unix users share files and printers out of the box. OS X Server features QuickTime Streaming Server and WebObjects 5 deployment software, as well as open services for secure, dynamic pages.

The 10.1 upgrade adds RAID support to Apple's Unix-based server product. It introduces enhancements to NetBoot and Macintosh Manager 2.1,

and integrates new updates to various constituent elements of the package – including Apache, Samba and a new release of QuickTime Streaming Server, version 3.0.2.

The Mac OS X Server v10.1 software upgrade package is available from Apple (0800 039 1010), costing £14.95. Mac OS X Server 10.1 costs £680 for an unlimited number of users. The ten-client version can be updated to support unlimited clients for £340. **MW**





# Carbon copies make mark



## Design for life

Adobe's perspective on the changing face of publishing is reflected in Illustrator 10's built-in Web capabilities, which help designers – rather than technicians – become more involved in Web design.

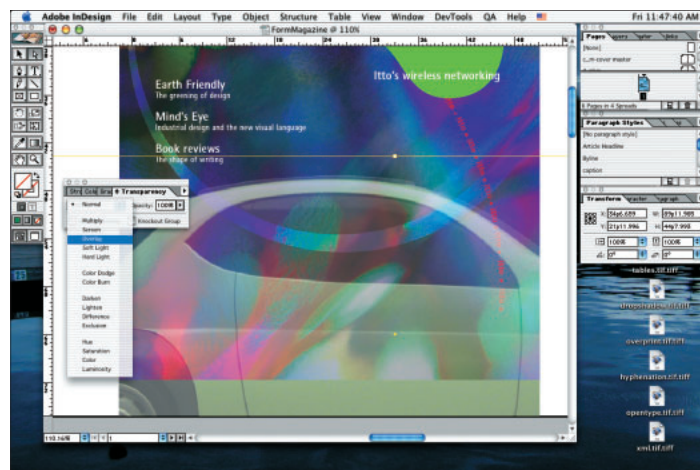
Adobe is bringing Mac OS X compatibility to its product line, with the announcement of Illustrator 10 and InDesign 2.0.

Bettina Glenroy, product manager for Adobe's graphics solutions in Europe, told *Macworld*: "We have always had a very strong commitment to the Mac market, and our products have a very strong Mac following."

The two Carbonized updates reinforce Adobe's vision of network publishing, in which publishers have to create or design content only once – and software does the donkey work of repurposing it for consumption in all formats, including paper, online, handheld devices, and XML-supported devices. Quark and Macromedia are also developing similar publishing solutions.

Illustrator 10 supports OS X natively, meaning designers will enjoy performance boosts and multiprocessing support. It also offers a host of workflow-improving features.

Illustrator 10's "wow-factor" feature is Symbolism. This lets designers clone images and spray them across their design. Designers get to choose how many times the images repeat, and these can be spun, resized, or scrunched, and the opacity adjusted. This feature is ideal for simulating items such as foliage or clouds.



## Transparency effects

InDesign 2.0's Transparency tool means transparency settings from Adobe Photoshop and Illustrator are maintained.



Illustrator 10 maintains the Web capabilities introduced in version 9. It improves these by adding Web-object slicing technologies that help create graphically rich Web sites, by splitting design into chunks that fit together to achieve the overall effect. A result of this is smaller file sizes, making sites more bandwidth-friendly. Version 10 also includes Symbols,

and Layers support, new tools that make lines, arcs, grids, and complex groups of objects easy to draw for Web authors. Illustrator 10 also supports a new technology: dynamic data-driven graphics. This means that when repeated graphics need be changed only once, because the graphic will be updated automatically across the site.

A new design tool called Live Distortion can bend, stretch and twist text, graphics and images in "any way imaginable", Adobe claims. It offers live enveloping, warping and distortion. These distorted elements

remain editable. Adobe admitted that this feature "may" appear in future versions of Photoshop.

Additional features in Illustrator 10 include enhanced support for Macromedia Flash, Scalable Vector Graphics (SVG) import and export, the ability to apply special effects – such as drop shadows – to SVG files, a photo-realistic lens-flare tool, the ability to preserve layers and improved asset-management tools.

Illustrator 10 needs a G3 or G4 processor, 128MB RAM, and supports Mac OS 9.1, 9.2.1 and OS X. It ships at the end of the year, and costs £295 (ex VAT). Upgrading from earlier versions costs £110.

## DTP X

Adobe's second major release – InDesign 2.0 – is a major update to the desktop-publishing application. It supports both Mac OS 9.1 and Mac OS X. Like Illustrator, the product is built to integrate with Adobe's portfolio of creative products. InDesign 2.0 offers built-in support for a range of publishing mediums, including Web, PDF and eBooks.

Adobe spokesman David Evans told *Macworld*: "Adobe aims to provide a Swiss Army knife toolkit for DTP."

Evans claims Adobe has added 800 new features, and that the application now has 17 of the top 20 features most wanted in a DTP application by QuarkXPress users.

One of these – transparency – applies transparency settings to text, graphics and images in a few steps. InDesign features a variety of blending modes, including the



capacity to darken, lighten and change the colour saturation of objects, just like Photoshop.

The application is also able to import and export transparent Acrobat 5.0 PDF files.

InDesign 2.0 offers a suite of table-building tools that turn tab-delimited text from most sources – including Word and Excel files – into tables. It also supports linked text-frames, for laying out continuous tables over multiple pages. Designers now get column width, row height, and colour-fill controls in a single DTP package.

Version 2.0 offers superior printing controls, with an intuitive user-interface that gives feedback about what print settings are enabled. It no longer requires Adobe's PostScript printer driver, and offers

new print-features. These include: the ability to save PostScript files directly from the print dialogue box; improved routes to easy printing of master pages and thumbnails; and the ability to specify bleeds separately for each side of a document.

InDesign 2.0 can export Acrobat PDF format. Its XML support has been improved, so enabling the repurposing of legacy documents and the building of templates.

InDesign 2.0 can import XML documents into Structure View, and this content can then be drag-&-dropped onto frames to layout as pages. InDesign 2.0 should cost £450 (ex VAT) on its release in the first quarter of 2002. **MW**

## Jonny Evans

■ There's an in-depth preview of Adobe Illustrator 10 on page 70.

## Adobe Studio goes to beta

Adobe has announced a beta version of Adobe Studio, the online collaborative service for Web creatives. It offers galleries of work, articles, tutorials, and Adobe Xchange, via which creatives can browse and swap design and production tools, including templates and stock art. It also features an ePortfolios service, and a variety of resources to help designers find work, print and publishing resources online.

Adobe also debuted its image-server software solution, AlterCast, at Seybold. This manages digital images, optimizes files for delivery to Web-enabled devices, and can also generate customized graphics for certain Web sites. It costs \$7,500 per user, AlterCast ships in the US and Europe next year.



## Deneba previews

Deneba Software has released a special Mac OS X public preview version of its graphics and illustration application, Canvas 8 Professional.

The version – for early adopters of OS X – will also support Mac OS 9.x on its release later this autumn.

Canvas is an all-in-one graphics composition and desktop-publishing tool. Version 8 contains many enhancements and features, including vector- and raster-sequence recording, that can create set styles and actions that can be applied to graphics.

## Automation bonus

Sequences now make it possible to automate most processes, with users able to record the steps taken in creating an image. Canvas also supports AppleScript, ColorSync and QuickTime. Other handy new features include customizable Web-image slicing, and the ability to export directly to Flash.

Manny Menendez, Deneba's president, said: "The idea is to repurpose the product into the Web-creation environment."

## Canvas 8 Professional

Deneba launched its first products for Mac 15 years ago, with utilities including Spelling Coach and a version of Sticky Notes.

Rob Crawford, the senior software engineer leading the Canvas 8 OS X project, said that Canvas 8's user interface has been optimized for Aqua and has "numerous new time-saving features".

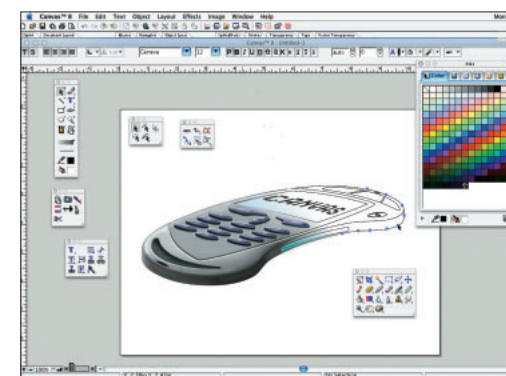
He added: "OS X's protected memory has allowed us to develop a robust product that can easily handle the largest graphic files."

Canvas 8 contains an updated PDF-export filter that supports full data-stream compression, direct embedding of PostScript and TrueType fonts, hypertext links, and transitions.

The application will support peer-to-peer file sharing, so Canvas users will be able to share images on private networks as well as over the Internet.

Menendez said: "We're sold on peer-to-peer. We think it's the next step in the business of moving images around, and believe this will be a major productivity enhancement for end-users."

No UK price is currently available. (Version 6 costs £395.) **MW**  
Jonny Evans



## Canvassing opinion

Canvas 8 Professional offers improved colour management, and floating menus that offer control over font-alignment and curves.







# Corel gets Suite on X

**C**orel Graphics Suite 10 for Mac is now available. The application is Corel's OS X-compatible collection of creative applications. It contains the long-awaited CorelDraw 10 vector-illustration package, Corel Photo-Paint 10 for image editing and painting, and the new vector-animation title, Corel Rave.

The Suite ships with a cast of supporting utilities: CorelTrace 10, a bitmap-to-vector tracing utility that converts scanned or manually created bitmaps into vector images; a font-management utility, Font Reserve; and Canto Cumulus Desktop LE 5.0 – a media asset-management system.

Three plug-ins are also included: KPT FraxFlame, KPT ShapeShifter, and KPT Smoothie. A library containing 2,000 clip-art images, over 500 photos and 2,000 TrueType and Type 1 fonts comes in the box.

"Continuing our aggressive release schedule for Mac OS X, we are pleased to debut Corel Graphics Suite 10 and bring the full power of our graphics technology to this exciting new OS," said Ian LeGrow, executive vice-president of creative products at Corel.

## Tools sharpened

All the suite's drawing tools have been made easier to use, Corel claims. There's more control over textures, fills and outlines, and a new Mirror fill option that creates tiles out of any fill.

Features supported across the Suite include an Aqua user interface, context-sensitive property bars, and support for Photoshop, Illustrator, Painter, FreeHand, PDF, Flash, SVG and EPS files. ICC (International Color Consortium) colour profiles are supported with ColorSync, and



QuickTime 5 is also supported.

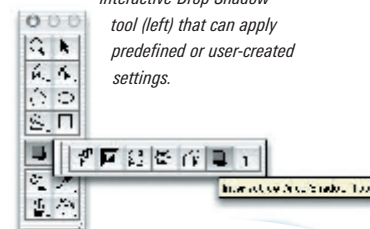
Greg Wood, Corel's UK PR manager, said: "This is one of five new products for Mac OS X from Corel this year, and is solid proof of our commitment to Macintosh users all over the world."

Corel's Graphics Suite offers wide PDF support. Users can add crop marks, file information, and registration marks, as well as any type of file to a PDF. Adobe Acrobat 5.0's transparency feature is also supported, so transparent objects can be published within a PDF without needing to save these as bitmaps. Fonts can be included within PDF documents, or exported as curves. PDFs built within the Suite support hyperlinks. PDF support also extends to the creation of basic job tickets – CorelDraw 10 will create these to contain key information.

The collection also offers

## Features trader

Graphics Suite 10 uses the Web Image Optimizer (above) across its component applications to help users get the most from Web images, and also includes an interactive Drop Shadow tool (left) that can apply predefined or user-created settings.



a built-in preflighting engine and a real-time print-preview feature, for pre-checking changes.

The suite costs £399 (inc VAT). The upgrade price for users of CorelDraw 6 and CorelDraw 8 for Macintosh is £199 (including VAT).

**Jonny Evans**

**MW**



## Wacom unveils pen TFT-screen

Wacom's new interactive-pen and TFT display, the Cintiq 15X, was one of the Mac-related highlights at September's International Broadcasting Convention (IBC) in Amsterdam.

The Cintiq 15X consists of a 15-inch TFT active-matrix LCD screen with a pressure-sensitive pen developed to work directly on the display's screen.

The pen offers 512 levels of pressure. The Cintiq 15X can be connected to digital DVI graphics cards and analogue VGA graphic adaptors. It features both USB and serial interfaces, and works with Mac OS X. The Cintiq ships at the end of October and costs £1,195.



## Procreate spawns Effects

**C**orel subsidiary Procreate has launched KPT Effects at Seybold in San Francisco. KPT effects is a collection of nine Photoshop-compatible plug-in effects for digital images. KPT Effects grew from the Kai's Power Tools Effects series for Photoshop, originally developed by Kai Krause, and sold to Corel by MetaCreations early in 2000. There

are nine tools in KPT Effects, including: Pyramid Paint, which separates an image into colour regions; Lightning (right), which creates realistic lightning effects; and Fluid, which liquefies images; and Hyper Tiling, which offers geometric-shape options. The collection runs on Mac OS 8.6 or later, Mac OS X. KPT Effects costs £149 (inc VAT).

**MW**





# LCD prices plunge to new low



## Docklands' digital double

Digital Solutions and the Digital Camera Show kick-off at the ExCeL centre in London's Docklands, from November 27-29.

Digital Solutions is dedicated to digital print and workflows. The show attracted over 7,000 visitors last year. Based on the success of that show, the Digital Camera show is the first event in the UK dedicated to the digital-camera market.

Russell Peacock, event organizer, said: "The Digital Solutions show has proved so successful that it seemed natural for us to expand and dedicate an entire show to digital photography."

Admission to both shows is free, and registration can be made online ([www.digitalcamera.com](http://www.digitalcamera.com)), or by calling 01491 614 447. MW

The price of LCD (liquid crystal display) monitors continues to tumble. Bob Raikes, senior analyst at monitor-market research specialist JPA Europe, said: "Three months ago we thought prices had stabilized, but they continue to fall."

The price-fall is driving increased sales, with LCD-monitor shipments more than doubling since last year – reaching 2.9 million units worldwide in the second quarter of 2001.

Other monitor-market experts warn that the market remains complex and volatile. Bryan Norris, senior partner at Bryan Norris Associates, said: "No one knows what's going to happen. On one hand, some manufacturers are saying that prices will continue to fall, but others warn they may rise, because Samsung says they should."

Samsung recently announced plans to reduce its production output of LCD screens, and other manufacturers have followed suit in a drive to become profitable.

"All five major Taiwanese LCD screen manufacturers are losing more money than they predicted," Norris confirmed.

Rumours predicting that Apple would announce a flat-panel iMac at Macworld Expo New York proved false. Further prices cuts are likely to spark a fresh round of flat-screen iMac rumours.

More grist for the rumour mill was provided by the massive Computex Expo in Taipei, Taiwan, at which a profusion of all-in-one PCs – integrating 15-inch LCD screens



### Flat-screen free fall

The above graph shows the average street-price for 15-inch LCD screens in Europe over the past year. Apple has already responded to this trend by moving its entire monitor range to flat panels.

DATA COURTESY OF JPA EUROPE

– were on show. Although not so widely known in Europe's markets, the appearance of such products at the show is held by many as a sign of things to come.

"It wouldn't surprise me if Apple released such a product," Norris said. "There were 15-inch screens everywhere at Computex."

Of flat-panel price fluctuations, Raikes said: "The current drop in pricing is the result of too much

investment last year, which has meant over-capacity this year.

"We expect prices to continue to drop in Europe up to Christmas at least, although the rate of price drop won't be nearly as fast as it was in the first half of the year."

Norris said: "Prices probably haven't quite stabilized yet, but if price drops continue, they'll be at a much slower rate." MW  
Jonny Evans and Martyn Williams

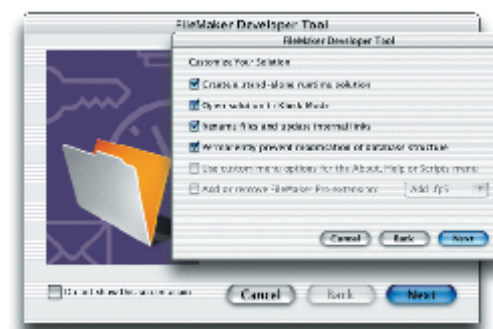
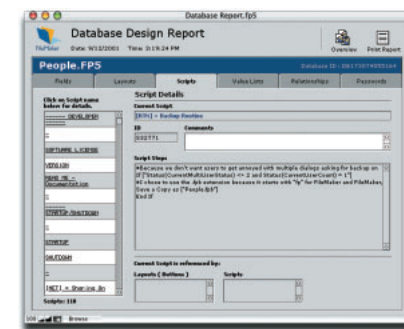
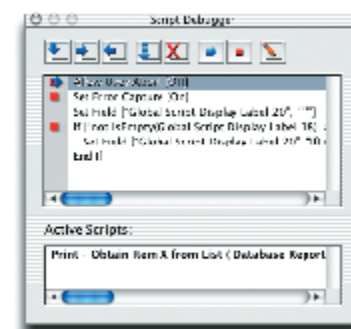
## Apple adds VRAM to iMac

Apple has upgraded its entry-level iMac model available to UK markets. The company has upgraded the graphics card that ships with the £799 (inc. VAT) model, replacing the 8MB ATI Rage 128 Pro graphics card with a 16MB Rage 128 Ultra. The extra dedicated video RAM (VRAM) should benefit graphics pros, although it's Mac gamers who are most likely to appreciate the extra video performance.

This 500MHz G3 iMac features a CD-ROM drive, 20GB hard drive, 64MB of RAM, dual FireWire and USB ports, a built-in 56K modem and 10/100Base-T Ethernet. The UK model offers 256K L2 cache at 500MHz – better than the US's

512K L2 cache at 200MHz. It is available only in an Indigo-coloured case. The entry-level iMac comes with iTunes, iMovie 2, AppleWorks 6, Nanosaur, Bugdom and Cro-Mag Rally.

Apple has released its English-language iMac Power Management Update 1.1. The update is for iMacs announced in February and July 2001, at the Macworld Expos in Tokyo and New York respectively. The update is for those who switch off their iMac to conserve energy. When the iMac is turned off, it uses its internal PRAM battery to remember the date, time and other Control Panel settings. The update means a powered-down iMac retains these settings for longer. MW



### Hand in hand

Wholly owned Apple subsidiary FileMaker has fully implemented Mac OS X's Aqua user interface within FileMaker Developer 5.5. Its Script Debugger interface (left) is used to test database scripts; the Database Design Report (middle) checks for orphaned links and redundant legacy objects; the Developer Tool (right) offers developers flexibility as they craft solutions.

## Corporate hospitality

FileMaker has released FileMaker Developer 5.5 for corporate and independent FileMaker developers and database administrators.

The application includes the full functionality of FileMaker 5.5, including Mac OS X compatibility. Additional features include: database design reporting; script debugging; developer tools; plug-in samples; updated drivers; and improved support for XML and other standards.

The Database Design Report feature lets developers check for orphan links and redundant legacy objects in databases. Reports can be viewed in database or XML formats,

and document the entire structure of a database. Such reports are date- and time-stamped for archiving and verification purposes.

### Follow the script

The Script Debugger tests all database scripts, allowing developers to check through each script, line by line. The developer tools have also been updated to help build stand-alone database applications and ecommerce Web sites. They offer a variety of customization tools, including those designed to rename database filenames while preserving links to files and scripts.

Three new plug-in samples are

bundled within the application. These include sample code, and are intended to offer developers guidelines for the creation of FileMaker Pro plug-ins.

The company has also added support for Merant 3.5, Merant 3.7, Oracle, Microsoft SQL Server and Text Open Database Connectivity (ODBC) drivers. A number of Web standards are also supported, including XML and JDBC.

However, ODBC Import, Toolbars, and FileMaker Mobile – for PDA connectivity – are not yet supported under Mac OS X. FileMaker Developer 5.5 is £429 (inc VAT). MW  
Jonny Evans



## Palm launches 33MHz m125

Palm has launched the Palm m125, its successor to the m105 handheld introduced earlier this year.

The m125 features Motorola's Dragonball VZ 33MHz processor, the fastest available for PDAs (personal digital assistants) running Palm OS. For the first time in the entry-level products it runs Palm OS 4.0. It ships with 8MB RAM.

It features two expansion-card slots: for Secure Digital and MultiMediaCard cards. Dual slots were previously only on the m500 series.

The PDA ships with a USB cradle, and a stand-alone HotSync USB cable is also available. Additional transfer methods include infrared and, in the pipeline, a Bluetooth wireless card, which Palm plans to ship "before the end of the year". The m125 costs £199. MW

## Handspring in Visor double

Handspring has added two new models to its range of PDAs. The Visor Neo costs £169 and ships with 8MB of memory. It comes in red or blue casings. The Visor Pro costs £269 and features 16MB memory, a rechargeable lithium-ion battery and a silver casing. It replaces the Visor Deluxe.

Both models have a Springboard expansion slot, and the company has also launched a 16MB back-up module. The models use Motorola's Dragonball VZ processor, and offer backlit monochrome screens, supporting four-bit greyscale.

"Visor Pro delivers the performance that power-users and business professionals need. Visor Neo is fully expandable and runs as fast as our high-end products," said Joe Sipher,



vice president of product marketing for Handspring.

The products come as Handspring and Palm face stiff competition from handheld-market newcomers – Compaq, Sharp and Sony. Toshiba and NEC also plan to debut on the Japanese PDA market. MW

### New faces

Handspring has shipped the Visor Pro (above, left) and the Visor Neo range of PDAs (above).







# X: a developers' dream

**O**S X developers are embracing the newly launched Mac OS X 10.1, Apple's first major update to its next-generation Unix-based operating system.

Key software developers are shipping major applications to the platform. Adobe has shipped Illustrator 10 and InDesign 2.0 (see page 28), while Microsoft Office, Macromedia FreeHand, FileMaker and Maya have also moved to OS X.

Macworld spoke with a number of influential and experienced OS X developers about Mac OS X.

Wil Shipley, the co-founder of OmniGroup, developer of OmniWeb, said: "It has great support for 3D graphics with an improved implementation of OpenGL, and fast, effective Virtual Memory that works."

He added: "Games will run faster. They won't lock up the machine if they crash. Sound will be better, and more games will appear faster, because it's so easy to port. It took us just one man-month to port Giants to OS X."

Shipley also praised Cocoa: "Once a programmer has used Cocoa, there's never any question about what the future of programming will be. Cocoa offers a new way of approaching programming. You can create the basic shell of a program in minutes, and start painting in features. It offers programmers the chance to experiment. It's every programmer's dream. We find it makes programming ten times faster."

## Mac-market bonanza

"A lot of developers are going to be able to survive solely from the Mac market. Macs are now of interest to a whole lot more people. OS X is rock-solid. It's also more programmable, and can be used as a server. It also has a garden of software available from the Linux community."

Francois Gariepy, Toon Boom Internet strategy vice president, sees great potential in OS X: "It's clean, fast, and easy to use. It could completely corner the creative, media and design markets. Its cutting-edge architecture is probably the best foundation for professional and industrial-class digital media production applications."

"I see a seamlessly integrated



suite of digital production-tools interoperating within the OS X environment to deliver incredible performance to users.

Dr Leigh Smith, author of MusicKit, told Macworld: "I think you'll start to see standard apps adopting more game-like, immersive interfaces."

## Streamline promise

"OS X offers a degree of integration and interoperability that can streamline workflow, save reinvention and promote better programming," said Smith. But he warns: "Apple faces bugbears it inherited with the NeXT management team: Perception, marketing, and promotion."

He believes Apple's developer-tools need polishing, pointing to tools featured in OpenStep: "Project Builder needs a class browser, and the Help application needs to support more than one window. Interface Builder needs to be able to pin windows to stay above all others while application windows are being created."

"Apple must not drop the ball for one second. It must ensure that thread priorities are able to be set for real-time services, so developers can focus on performance in their applications."

Andrew Stone, designer and publisher of Stone Design Studio, a collection of design applications for OS X, praises Apple's engineers, who have designed the low-level code in

order for developers to focus on applications.

"It's a rapid prototype development environment in which to build usable software quickly. It means reusable components that work without knowing how they work. It is the developers' black box."

"If you find a bug, you can fix it – and submit the fix. You get peer review. This differentiates Apple from Microsoft, the queen of proprietary worms."

MusicKit's Smith warns Mac OS X users not to expect a tidal wave of software: "No new developers will write for a platform that constitutes five per cent of the market. They will port only Windows applications to Mac OS if enough of a market appears."

## Marketing a must

"There isn't much point trumpeting better technology if through bad marketing and poor positioning, no one uses it."

But Shipley – who developed for NeXT – sees a bright future for Apple, OS X and its users: "Mac OS X is the beginning of a huge journey for all Mac users. We're all incredibly excited because we've worked for 12 years to make sure this would happen. We always believed that once we got a large audience we could change the face of computing forever."

"The revolution has finally started," he proclaimed. **MW**  
**Jonny Evans**



## On the CD

■ **DragThing 4.1** has been released by TLA Systems. It's a dock that tidies up desktops by dragging applications and documents into it. It's Carbonized for Mac OS X, and will run on earlier OSes if CarbonLib is installed. New features include enhanced visuals and the ability to draw textures in the dock's background. The application supports long filenames and costs \$25.

[www.dragthing.com](http://www.dragthing.com)

■ **Astrologyk 3.0** is the first-available astrological solution for Mac OS X. It offers an improved interpretation system, and supports a wider range of astrological source-data. It costs \$29, and \$19 to upgrade from previous versions.

[www.astrologyk.com](http://www.astrologyk.com)

■ **RealMac Software** has released NavBar Builder 1.0, its navigation-bar creation tool that works with Mac OS X and 9.x. It's an easy-to-use solution for creating navigation bars for Web sites. The \$15 software offers pre-set designs and live previews.

[www.realmacs.co.uk](http://www.realmacs.co.uk)





# Myth III turns back the clock

**M**yth III: The Wolf Age will be on the shelves this November. Developed by Mumbo Jumbo and published by MacSoft, Myth III features 25 single-player levels and a multiplayer mode.

Andrew Meggs, lead programmer at Mumbo Jumbo, told *Macworld*: "We've got the best OpenGL pipeline I've ever seen, and I've worked on ports of games using all three Quake engines."

In the game, Connacht the Wolf has been declared the first Emperor of human lands. The action is set 1,000 years before the Fallen Lords – the original Myth release.

Myth III sees the world on the brink of destruction, with fearsome non-human races having hunted humanity to near extinction. To conquer these enemies, players must cast spells, collect items and build devices. They must also win battles, using strategy to overcome overwhelming odds.

This real-time strategy game puts players in command of small squads of archers and warriors. The task is to make the squads work together to overcome an increasingly demanding series of challenges.

Myth III introduces a selection of new enemies, including black-magic Ghol priests. As with previous



## Battle of wits

*Myth III's demanding strategy-gameplay pits players against marauding masses of enemy races.*



versions, online and network multiplayer games are supported, and a number of multiplayer game-types are also included. These include: Carnage, Flag and Ball, and

Deathmatch. The game features 3D terrain and characters, as well as special effects. These include vegetation that sways in the wind, weather conditions and war-scarred terrain.

Available from Softline (01883 745 111) in mid-November, Myth III costs £39.99 (including VAT). Both Mac and PC versions will be released simultaneously. **MW**

**Dominique Fidèle**

| Mark Allen (Flexsys Cefn Druids) |           |          |            |          |
|----------------------------------|-----------|----------|------------|----------|
| Injuries & Bars                  |           | Contract |            | Transfer |
| Born 2.9.76 (Age 24), English.   |           |          |            |          |
| 14                               | Goal      | 5        | Set Pieces |          |
|                                  | Handling  |          | Stamina    |          |
| 11                               | Heading   | 5        | Strength   |          |
|                                  | Influence |          | Tackling   |          |

## Valley good

*The Welsh league is a new feature of Championship Manager 2001-2.*

## Time to give it 1,000 per cent

Championship Manager 2001-2 – the third version of the football-management sim – is now available.

Players still have to endure the pressure-cooker demands of real-life managers – from selecting the squad, motivating the team, and keeping the board sweet – but 2001-2 does offer new features.

Fresh challenges for the new season include an upgraded Database Editor. Statistics can be modified, so team squads can be updated: you can even add yourself to a team. The Database Editor has to be downloaded from Feral ([www.feral.co.uk](http://www.feral.co.uk)).

Championship Manager 2001-2 costs £29. **MW**

## Sheep: souped up for ewe

**F**eral Interactive's Sheep for the Mac is available now. The game revolves around sheep that were sent across the galaxy from star system Ovis Aries to study Earth's habitat.

Sadly, the dim creatures forgot their mission and became domesticated by man. When their ancestors come to bring them home, the sheep must be guided through seven worlds – complete with electric fences, and combine-harvesters. Sheep for the Mac costs £29.99.

■ Feral Interactive has also revealed that it is not developing Mac-only features for the forthcoming Mac port of hit title, Black & White. **MW**  
Feral, [www.feral.co.uk](http://www.feral.co.uk)







# Tech firms show heart

## Business briefs

- Akamai Technologies (of which Apple is a stockholder) is "deeply saddened" by the death of Danny Lewin, the company's co-founder and chief technology officer. Lewin was on-board one of the American Airlines flights that was crashed into the World Trade Center. He was 31, and is survived by a wife and two sons.
- Apple is proposing to settle a class-action lawsuit filed due to DVD-playback issues in early US models of Apple iMac DV, iMac DV SE and Power Mac G4 computers. Those effected may receive a free CD-ROM upgrade, and discounts on software and hardware.
- Apple has entered a strategic alliance with Navarre Distribution Services to supply third-party Mac software to Apple's retail stores and its Web site in North America.
- Adobe's third-quarter revenues for 2001 were \$292.1 million, compared to \$328.9 million in the third quarter of 2000, and \$344.1 million in the second quarter of 2001.
- US computer companies are likely to struggle until 2003, in the wake of weakening consumer and corporate spending and the terrorist attacks in New York, claims Prudential Securities analyst Kimberly Alexy.
- Palm lost 47 per cent revenue in the third quarter, compared to the same quarter 2000. It reported \$214.3 million revenues, for a net loss of \$38.7 million.
- Lernout and Hauspie Speech Products has won a nine-month extension of its bankruptcy protection period from the Belgian courts.
- Saudi billionaire Prince Alwaleed bin Talal is retaining his \$314 million of Apple stock.
- IT analyst International Data Corporation predicts that worldwide PC-shipments will fall this year by 1.6 per cent, to 129.6 million units.

Apple has joined with other major US technology companies to help the victims and families affected by the terrorist attacks of September 11. Apple changed the front page of its Web site, so that it bore a single Red Cross, and the message: "Our thoughts are dedicated to those affected by the tragic events this week." Apple is encouraging visitors to donate to the American Red Cross ([www.redcross.org](http://www.redcross.org)) to help finance the rescue and relief attempts. The company also gave \$1 million to the bereaved families of rescue workers, and offered an iBook to each such family with children.

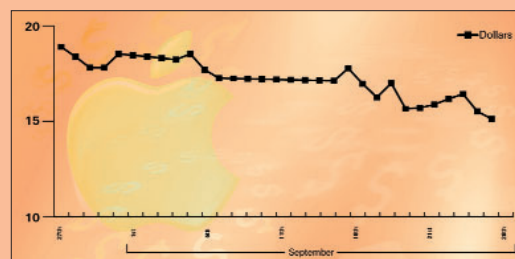
Microsoft offered \$5 million to the September 11 Fund (<http://september11fund.org>), a group established to respond to the immediate and longer-term needs of the victims, their families, and those communities affected by the events. The company offered an additional \$5 million in technical services and software. The company's Web site was changed to deliver a message urging visitors to contribute to the American Liberty Partnership, which had raised around \$100 million at the time of writing.

Adobe urged its customers to "support disaster relief efforts", directing customers to Web site [www.helping.org](http://www.helping.org), which raised \$7.3 million to help. Macromedia and Quark posted similar messages of sympathy and support, and also asked visitors to contribute to relief agencies.

Corel, meanwhile, suggested that its Web-site visitors contribute to the Canadian Red Cross, which also sent staff to the World Trade Center rescue operation.



Online retail giant, Amazon.com is collecting donations from site visitors, amassing \$6,801,008 for the American Red Cross in the two weeks after the attack. Most companies with a major online presence posted messages of



sympathy and Web links to a variety of relief-aid organizations in response to the tragedy.

Thursby Software gave all profits from online sales between September 12-21 – \$30,000 – to the Red Cross appeal, while Aladdin Systems donated a dollar from all online sales over a 30-day period to the same fund. MCF Software is also donating profits generated by online sales of its products.

### 'Something positive'

Thursby Software president, William Thursby, said: "I'm glad we were able to do something positive. It is extremely important that the families and rescuers get the resources they need, and we are impressed with the efforts of the Red Cross, both nationally and locally to make sure that happens."

The American Red Cross gave an initial \$100 million to help fund rescue and relief work within days of the incident. Four million North Americans gave blood. And global business gave money and time as it expressed its anger at the attacks, which eclipsed economic decline.

Thursby said: "I have been touched by the outpouring of support from our customers, not only in America but around the world. We received letters from several of our international customers thanking us for allowing them to assist America and the American Red Cross in this way. United we stand."

The International Red Cross also distributes food-aid in Afghanistan. MW

Jonny Evans

## Corel in profits hat-trick

Corel returned a profitable third quarter 2001, its third successive profitable quarter since its corporate restructure earlier this year.

The company has refocused on graphics and creative products, launching a spin-off brand, called Procreate. Corel has launched a series of new products for the Mac in recent months, including Bryce 5, Painter 7, KnockOut 1.5, Corel Graphics Suite for Mac, and KPT Effects. It's also working with Microsoft to offer services as part of Microsoft's .NET strategy.

Revenues for the quarter were \$34.2 million, compared to \$36.4 million for the same quarter last year. Net income was \$500,000, compared to a net loss of \$10.7 million in the year-ago quarter. Corel accrued a net income of \$2.3 million in its second quarter, and \$3.4 million in the year so far.

John Blaine, chief financial officer at Corel, said: "These results indicate our financially disciplined approach is working."

Derek Burney, president and CEO of Corel Corporation, added: "When we announced our new corporate strategy last January, I stated that we would be profitable again by the third quarter of this fiscal year. We have delivered on that promise."

### Commitment

Burney added: "As we've demonstrated over the past three quarters, we're determined to fulfil our commitments to shareholders and customers. This quarter, we released four new products, introduced a new line of professional creative applications for Mac OS X, and announced our plans to acquire Micrografx and SoftQuad." MW



## Wacom ships next-gen tablet

**W**acom has announced Intuos2, its second generation of professional graphics-tablets. There are five sizes of tablet – A6, A5, A4, A4 oversize and A3. Eight different input devices are also available.

The Intuos2 2D mouse has been overhauled. Each A5 and A6 tablet ships with a 2,540dpi cordless, ball-free three-button mouse with a finger-wheel for scrolling through pages. A 4D mouse is also available, with more buttons and an optional lens cursor for accuracy.

All input devices are customizable, and Wacom's driver software can be configured to recognize a number of different devices, remembering individual user and application settings for each device. Both mouse speed and acceleration are controllable, and the solution offers absolute positioning. Also new in Intuos2 is a split tablet mode – users can employ the main tablet area for detailed work, and navigate the screen via the second smaller area on the tablet.

A number of other input devices are also available, including an airbrush pen, inking pen and stroke pen. Pricing for these devices has not yet been announced.

The Intuos2 A3 graphics tablet costs £600, and ships with the top-of-the-range



mouse and pen, and Corel Painter Classic. The oversized-A4 option costs £405, and ships with Painter and the 4D Mouse and Grip Pen. The regular-sized A4 option ships with Painter, mouse and pen, and costs £365. The A5 tablet includes Painter, a mouse and pen, and costs £255.

The smallest tablet in the range, the A6, ships with the same and costs £140. CAD versions of the larger tablets are also available; the A3 costs £540 and the A4 oversize costs £405 – these ship with a lens cursor, but not Corel Painter Classic.

**Computers Unlimited, 020 8200 8282**

### Colour correction

*Wacom has ergonomically redesigned the input devices for the Intuos2 range, and the tablets' colour has been changed to deep purple. The input devices are accurate to within 0.25mm, and can detect up to 1,024 levels of pressure. The Intuos2 Grip Pen has a wider grip. Its weight has also been adjusted for "comfort and increased control". It hosts a programmable double-sided switch and a pressure-sensitive tip and eraser.*

### Epson's perfect Match

Epson's PhotoPC 2100Z 2.3-megapixel digital-camera features Epson's Print Image Matching Technology, which the company claims offers improved imaging, colour balance. It's a USB-connectable unit, and supports CompactFlash for data storage. Pricing has yet to be announced. Epson, 0800 220 456



### Contacts targets marketers

Cruse Control has launched its Contacts management system. The software stores customized contact-information. It sends letters and faxes, stores notes, telephone messages and can run mail merges. Contacts costs £249 per user, and ships with FileMaker Pro 5.5. Cruse Control, 01923 842 295 [www.crusecontrol.com](http://www.crusecontrol.com)



### USB reaches out

Gefen has launched the Ex-Tend-It USB-400, a solution that extends the reach of USB cables from 17 to 330feet. It does so by combining a remote four-port USB hub and an extension into one device. Ex-Tend-It USB-400 costs \$499 online. Gefen, [www.gefen.net](http://www.gefen.net)

### Print to PDF

PrintToPDF is a Macintosh printer driver that creates PDF files. It can create PDF bookmarks for section and subsection headings, and URLs can be converted into hotlinks. Version 2.2.5 fixes bugs. It costs \$20. [www.jvwalker.com](http://www.jvwalker.com)



### Flash USB Drive price cut

USB Innovation has cut prices across its Flash USB Drive range. Prices for the data-storage device start at £42 for the 16MB, down from £54; the 32MB version now costs £57, reduced from £80; the 64MB has been reduced by £44 to £94; the 128MB drive costs £170, down £97; the 256MB drive costs £247, down from £550; and the 512MB unit costs £468, down from £931. USB Innovations, 01494 794 974

## USB 2.0 drive ships

Maxtor has launched the first USB 2.0 external hard-drive, the Maxtor Personal Storage 3000LE. The 40GB unit costs £169, and operates at 5,400rpm. 40GB will hold up to 40 hours of uncompressed digital-video.

At almost 480Mbps, USB 2.0 offers 40-times faster transfer speeds than the USB 1.1. The standard is backwards compatible, and will work with USB 1.1-enabled Macs. Adaptec and Keyspan both offer PCI-based solutions that can add USB 2.0 connectivity to Macs (from around £50), and a variety of USB 2.0 solutions are currently reaching market.

**Maxtor, 01923 712 448**



### Classic cars

Heritage Image Partnership has added the Motoring Picture Library of the National Motor Museum to its image range. The institution's picture collection has been digitized, and is available online ([www.heritage-images.com](http://www.heritage-images.com)). Images cost between £35 and £5,000, depending on use. Heritage Image, 020 7929 5581

continues page 44



## Apple updates

Apple has released **CarbonLib 1.4**, a software library that improves functionality for Carbon-based applications on Mac OS 8.6, all OS 9.x releases and Mac OS X. This is also included within the Mac OS 9.2.1 updater. It improves the performance of Carbonized applications running in the Classic environment of OS X, as well as under earlier operating systems.

See also page 80 for OS X 10.1. Visit [www.apple.com/updates](http://www.apple.com/updates) for more information.

## Third-party updates

**APS Powertools 6.4.2a**  
This upgrade to the Mac drive-management utility fixes a number of issues, including correcting operation under Mac OS 9.x on older Macs. It also fixes an error that let some password-protected volumes be mounted without a password. USB operation (particularly with Toast) has also been improved.

**CatDV 2.0.1**  
CatDV, the cross-platform video-clip management utility from Square Box Systems receives a number of performance improvements such as better QuickTime compatibility, and a variety of bug fixes within this update. It has also received a number of cosmetic fixes when running under Mac OS X.

**DiskWarrior**  
The Mac disk-repair utility has been updated to become compatible with Mac OS 9.2.1. It fixes a problem in which the application would not load when the Mac started up in OS 9.2.1.

**FlightCheck Classic & Classic Collect 4.2**  
Markware's stand-alone pre-flighting application family gets a maintenance release which adds pop-up menu "views" to the main window, and adds FlightCheck Icons to the Help menu.

## Formac in 22-inch move

Formac has launched a 22-inch CRT monitor – which has a 20-inch viewable area – the ProNitron 22/800u.

The flat-screen CRT monitor integrates DiamondTron technology, and offers an ultra fine 0.24mm aperture-grille with a horizontal frequency of 31-121KHz.

It integrates a self-powered USB hub with three down and one upstream ports, and hosts an on-screen control system featuring icon-based control panels. It also has front-panel button controls. The monitor costs £639 and ships with a three-year on-site warranty. Formac, 020 8533 4040

# Network mono boon

Brother has launched a series of mono laser-printers, the HL-1440, HL-1450 and the HL-1470N (right). Each USB printer delivers up to 14ppm (pages per minute) at resolutions of 1,200-x-600dpi, and includes a 250-sheet universal paper cassette and manual-feed paper slot.

The £220 HL-1440 has 2MB memory, expandable to 34MB. An optional lower paper tray supplies up to an extra 250 sheets.



The £254 HL-1450 has a standard memory of 8MB, which is expandable to 36MB.

The £339 HL-1470N features 10/100BaseT Ethernet connectivity. Otherwise its features are identical to those of the HL-1450, though this unit ships with network print-management software.

**Brother, 0845 606 0626**

# Epson's scanner reaches Perfection

Epson is shipping the Perfection 2450 Photo scanner, which offers a resolution of 2,400-x-4,800dpi with a colour depth of 48bits. It integrates a multifunctional smart panel, that can be configured to scan images straight to Epson's Photo Sharing Web site. Other controls include a programmable QuickStart button and intelligent Smart Panel interface for one-touch scanning.



The scanner integrates a technology called "On-Chip Microlens" that improves image quality by enhancing light.

The scanner is equipped with USB 2.0 and FireWire ports. A 4-x-9-inch transparency adaptor is built-in. The scanner ships with Adobe Photoshop Elements software. No price is available yet.

**Epson, 0800 220 546**

## LaCie drives DVD onward

LaCie has announced its DVD-RAM/R drive with FireWire Interface. The drive combines DVD-R and DVD-RAM capabilities into a single unit with a data-transfer rate of up to 22.16Mbps.

The transfer speed is also influenced by the type of media used – it transfers data at up to 11.08Mbps when using 4.7GB DVD-R media, and 22.16Mbps with random-access 4.7GB DVD-RAM media.

In addition to writing and reading 2.6GB, 5.2GB, 4.7GB and 9.4GB DVD-RAM media, LaCie's DVD-RAM/R drive reads from discs

accepted by most CD formats, including CD-ROM and audio CDs. It offers data seek times for DVD-RAM of 75ms and 65ms for DVD-R, DVD-ROM or CD media. Available now, the £478 drive automatically detects the system interface and configures the connection, so it mounts as soon as it is plugged in to a FireWire port.

**LaCie, 020 7872 8000**



**Driven**  
Like the SuperDrive in Apple's G4 PowerMacs, the LaCie DVD-RAM/R can read and write DVDs, as well as burn CDs.

# HP all-in-one is a media powerhouse

HP has announced the PSC 950 combination fax, copier, scanner, photo-card reader and printer. The inkjet PSC 950 will print in colour-photo mode at 1,200dpi, or in text mode at 600dpi. It offers 12 pages per minute (ppm) in black-and-white, or 10ppm in colour.

USB connected, the device will print on a wide variety of media, including HP's own T-shirt transfer and poster paper.

It scans at a resolution of 600-x-1,200 pixels in optical mode, which HP claims equates to up to 9,600dpi in enhanced mode. It ships with optical character recognition (OCR) software, and offers 8-bit colour depth in black-&-white, or 36-bit in colour.

As a copier, this unit offers speeds up to 12ppm in black-&-white, or 9ppm in colour. It will run off up to 99 copies from one original at a time, and can reduce and enlarge by 25-400 per cent.

The flatbed-fax feature delivers fax transmissions at six seconds per page using its built-in 14.4kbps fax modem. It has 60 speed dials, an automatic-redial

function and will print activity and confirmation reports.

The solution will print a contact sheet with thumbnail versions of images direct from a camera's media card, (it supports CompactFlash, SmartCards and Sony Memory Stick). It can also print specific images from the card.

Neither function requires the machine be connected to a Mac – users simply mark up the contact sheet with a dark pen, feed the sheet into the scanner and the printer does the rest. The unit will also act as a card reader to transfer image data to the Mac. It costs £246.

**Hewlett-Packard, 08705 474 747**



**Form and multi-function**  
HP's latest all-in-one, like Epson's Stylus Photo 895, doesn't need a Mac to print. Solid-state media – such as CompactFlash cards – can be plugged into the device, and images printed.



## Abstract vision

Digital Vision has launched an image collection called Infinity. This is a series of Photoshop layered images produced by respected digital artists. The collection is entirely abstract, and each image can be repurposed for different needs – saving design studios time and money, Digital Vision claims. Featured artists include Rod Steele, James Widgren and Jens Karlsson. Digital Vision's Infinity collection costs £599.

Digital Vision, 020 7378 5500

## Camedia's in hand

Olympus has launched the palm-sized four-megapixel Camedia C-40ZOOM.

The device measures 87-x-68.5-x-43.5mm and weighs 190g. The camera offers a 2.8x optical and 2.5x digital zoom, and costs £577.

Features include automatic and programmable shooting modes, with manually adjustable lighting controls. The noise reduction feature compares images against a black background to identify and remove all noise in an image. The camera can also recalculate image data to make larger image sizes – the unit can increase the resolution to 3,200-x-2,400 pixels.

It uses a SmartMedia card for image storage, and has a built-in adjustable flash.

Other features include the capture of up to 161 seconds of motion in QuickTime format. It can automatically download images to the Mac over USB.

Olympus' Camedia C-40ZOOM supports Mac OS 8.6 or later.

Olympus, 0800 072 0070



## 3D app's new model

3D application Carrara has had a face-lift, and is now called Carrara Studio 1.1 (£299). Since Eovia acquired the application from MetaCreations, it has worked to improve the 3D solution, it claims. New features include a collection of 25 third-party plug-ins – including new renderers, such as Cartoon. Also included is a collection of pre-built models, to allow instant scene making.

Gomark, 020 7731 7930

## Four busses turn up

Lindy has introduced its bus-powered four-port USB hub for Macs and PCs. The small unit has a built-in cable. Its power-management feature permits users to distribute some or all of the available power to any of the ports, so it will drive devices that need more power, so long as total power for all connected devices does not exceed that available from the Macs USB port. It's a USB 1.1 device, costing £14.

Lindy, 01642 754 000.

## What a CAD

ADW Software's Pythagoras is a modern CAD program specially designed for topographical applications, such as land surveying, road design and city planning. It offers custom tools for these tasks, with the manufacturers calling it a "user-friendly solution". Pythagoras XL Basic System costs £1,595.

ADW Software, [www.pythagoras.net](http://www.pythagoras.net)

## Iiyama's Vision

Iiyama has launched its 17-inch DiamondTron Vision Master Pro 413 at a price of £185. Adjustable brightness (Optimum Picture Quality) settings help the monitor deliver better-quality playback of DVD movies. The monitor has a 0.25 dot pitch, and has a maximum resolution of 1,600-x-1,200 pixels at 75KHz. It offers dual-video inputs and carries a three-year on-site warranty.

Iiyama, 01438 745 482



continues page 46



## CDs & books

### Adept at maths

Adept Scientific's Maple 7 maths-education solution is shipping. It uses tutorials to explore mathematical concepts, including calculus, algebra, and applied maths.



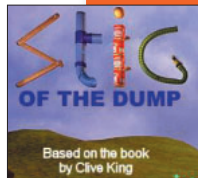
Three freely downloadable PowerTools – Calculus I, II and Physics Education – have also been released. These add functionality to Maple 7, including advanced-calculus courses and 100 calculus projects. The product costs £1,695; an upgrade from a previous version costs £616. Adept Scientific, 01462 480 055

### Highlight Photo hints

Photoshop 6.0 A to Z includes hints and tips for using Photoshop versions 3.0 to 6.0. Contents are presented alphabetically. The book also lists a number of preferences with which to customize the program's original settings. Author Pete Bargh has peppered the book with Macintosh commands, using Mac screen grabs wherever possible. It costs £15.99. Focal Press, 01865 310 366

### Stig in the mod

Kid's classic, *Stig of the Dump* has been adapted into an animated adventure by educational software publisher, Topologika. The title features a "virtual environment" that children can explore using characters and objects from the book. *Stig of the Dump*



is intended for use as a comprehension exercise, literacy tool or as part of a project. It ships with a handbook, storybook and map. It's suitable for educational Key Stages 1-3. A single user licence costs £34.95, while a site licence is £104.85. Topologika, 01326 377 771

### Image is everything

The Dimage Scan Multi Pro's (above, right) optional Multi-Format Set scans special-sized films, including microfilm, microscopic slides, 16mm film, Minox and 24-x-65-inch panorama format.

The Dimage E203's (below) flash and shoot mode buttons offer a range of shooting conditions for the subject's best setting, while an auto-recording mode automatically frames, focuses and exposes pictures. There is also a built-in self-timer for self-portraits.



# Digital pics ready to go

Minolta has released the Dimage Scan Multi Pro scanner and the Scan Dimage E203 digital camera. The Dimage Scan Multi Pro offers a scanning resolution of 4,800dpi. It can scan a variety of film, from 35mm to medium-format negatives and transparencies. It produces both A2 and A3 outputs with resolutions of 600dpi and 400dpi respectively.

The Dimage Scan Multi Pro's driver software supports Digital ICE technology combining three digital-enhancement tools. Digital ICE (Image Correction & Enhancement) minimizes surface defects and restores colour. Digital ROC (Reconstruction of Colour) reconstructs the colour of faded or badly exposed film, while Digital GEM (Grain Equalisation and Management) enhances pictures from high-speed film. The £1,957 Dimage Scan Multi Pro scanner

features advanced colour matching to ensure colours in scanned images replicate the original film.

Minolta has also launched the DiMage E203 digital camera measuring 101.5-x-61.5-x-35mm. It offers 3x optical and 2x digital zooms. It support a 2-megapixel resolution, with a focal length ranging from 5.4mm to 16.2mm. Images are recorded on a compact SD (Secure Digital) Memory Card, and transferred via USB.

A built-in 38mm 120,000 pixel, TFT colour monitor allows viewing, editing, deleting or locking of images. The camera can capture 15 seconds of digital video recorded at resolutions of either 320-x-240 or 160-x-120 pixels. The £340 Dimage E203 ships with ArcSoft PhotolImpression 3.0 image-editing software.

Minolta, 01908 200 400



# LaCie RAIDs drive array



### Drive array

The SCSI interface of the Flexible Ultra 160 RAID Tower is backward compatible with SCSI drives.

LaCie is shipping the Flexible Ultra 160 RAID Tower for the Mac. The device offers a choice of RAID (Redundant Array of Independent Disks) levels, including 0, 1, 0+1, 3 and 5.

It hosts a 160MBs SCSI connection, and can hold 12 drives, with a total capacity of 12TB.

Used with LaCie's 7,200rpm 180GB hard-drives, the TX12000 can achieve data-transfer rates of up to 75MBs with a 2ms average data-access time.

Two RAID towers can be daisy-chained together to create the theoretical maximum of 24 drives in the array. LaCie's controller supports up to eight concurrent RAID sets,

each with its own unique RAID level, so the unit can be set up for fast data-retrieval.

High-speed processing is best handled by the RAID 0 configuration, which is often employed by video producers and data warehouses. Other configurations, such as 1, 0+1, 3 and 5, are better at recovering data lost by a failed drive. In these configurations, a RAID array can automatically rebuild data from the failed drive onto a spare drive.

Administration and set-up is managed via an LCD display on the back of the device. The company offers free 24-hour technical support for these. It costs £6,149.

LaCie, 020 7872 8000

# New projector is bright idea

InFocus has unveiled the LP530 projector, which has a brightness of 2,000 ANSI lumens and weighs 5.7 pounds. It has an XGA (Extended Graphics Array) resolution of 1,024-x-768 pixels.

It hosts a built-in 3W integrated-

audio system and has digital-keystone correction up to plus or minus 20-degrees. The projector is upgradable, and costs £3,995 with a two-year replacement warranty.

InFocus, 0800 028 6470

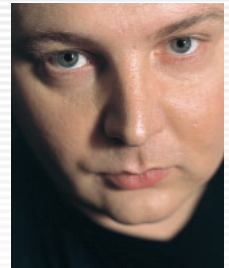


### Light the way

The LP530 features variable brightness settings – users can choose between 2,000 and 1,600 ANSI lumens



Motorola is readying super-fast G5 chips,  
but will the future for Macs be that different?



## Gigs beckon

It seems like only yesterday that Apple announced the Power Mac G4 – the desktop super-computer. In fact, it was two years ago and, in that time, it's gone through some notable changes since its first incarnation. However, the heart of these machines – the actual PowerPC G4 processor has not changed drastically in this time (apart from a series of speed-bumps that have seen it go from 350MHz to 867MHz).

In the same time, Pentium processors have also tripled in speed, topping out at today's 2GHz. These GHz Wintel machines sound faster, but are in fact slower – a fact Apple has been highlighting by beating the “megahertz myth” drum. However, if the rumour mill is right, Apple won't have to bother doing this much longer. This is because the next generation of PowerPC processors from Motorola – the PowerPC 8500, or G5 processor – will mean significant speed increases for Apple, and, therefore, for all of us.

### Speed-road insight

The Motorola road-map offers some insight into what we can expect. Initial G5 speeds will start at 800MHz, though some sources say that these will be used in embedded computing systems rather than Macs. The upper limits of the G5 will surpass 2GHz, which should give Intel something to consider. Currently, speeds of 1.6GHz are being achieved in Motorola's labs.

So how is Motorola getting this big speed increase? Well, one thing that's helping is the 0.13-micron technology being used. This means that the chips microscopic wires are thinner than ever before, making the chip cooler, and therefore allowing for faster speeds.

Another difference is the number of pipeline stages used – up from seven to ten. As Jon Rubinstein demonstrated at the New York Macworld Expo, the more pipeline stages you have, the slower the speed – even though it means you can chalk-up more MHz. So, while we'll be seeing more MHz with the G5, the benchmark results may not be as impressive as the numbers.

Even with the new 0.13-micron process, the additional MHz will generate more heat than previous chips. Motorola will deal with this by using SOI (Silicon-on-Insulator) technology. SOI adds a thin layer of glass between the chip transistors and the underlying silicon. This insulation reduces any electrical leakage that can degrade performance.

Curiously, while Motorola gets ready to break the gigahertz barrier, Intel is heading the other way. The

latest workstation processor, the Itanium, weighs in at an unimpressive 800MHz – less megahertz than the top Macs. The reason for the low megahertz is that Intel has reduced the number of pipelines used in the processor from 20 in the Pentium 4, down to 10 in the Itanium.

So, by the beginning of next year Apple could well be readying computers based on the G5 processor. The speeds should be in excess of 1GHz, maybe even as much as 1.6GHz, while Intel's fancy Itanium chips would still be languishing in the sub-gigahertz woods.

Of course, Mac people know MHz is an unreliable measure of speed – but many PC users won't. However, when they're told that their 2.2GHz Pentium 4 is slower than an 800MHz Itanium the word should soon spread.

So, Apple's G5 range will be boast new chip technology, but how will the company innovate with regards to the machines' guts and appearance?

I'd like to see AirPort become a standard feature fully built-in to all Macs, even desktop models. While USB 2 is unlikely to ever eclipse FireWire for video connectivity, it may have its uses for other hardware. More to the point, I don't want to listen to any more PC weenies banging on about how great it is.

In a similar vein, Bluetooth is another wireless technology that PC folk have been harping on about recently. This allows you to connect at high speeds to other Bluetooth devices at relatively short range. This may be handy for digital-camera downloads, but I don't see it being an essential for some time yet. However, if Apple wants to be at the centre of the digital hub, then it will have to factor-in Bluetooth eventually.

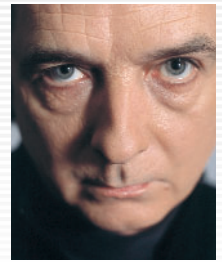
### RAM raiding

Currently, the most RAM you can cram into a G4 is 1.5GB, which amazingly costs under £200 (visit [www.crucial.com/uk](http://www.crucial.com/uk)). It's likely that the next generation of Macs could handle up to 16GB of RAM, which should be more than enough for most. And, if hard-disk capacity continues to increase at the current rate, it doesn't seem unreasonable to expect to see 100GB drives being the standard entry-level capacity before long.

So there you have it – everything will be faster, just like it was last year, the year before, and the year before that. Just as unsurprising is that people who like Macs will continue to like Macs, while PC weenies will still love their PCs. The only difference is, the Mac community will no longer have to continue explaining why their “slower” processors are faster. The G5 – and, ironically, Intel's Itanium – will do that for us. **MW**

**'The upper limits of the G5 will reach 2GHz and above, which should give Intel something to consider.'**

In the Web age, the Macintosh community ignores viruses at its peril.



## Immune system?

There's a small blue plate on my back door that says: "Anyone caught here at night will be found here in the morning." It was put there by a biker friend years ago as a sort of angelic joke, and I've never seen any reason to remove it. Living, as I do – too far up a mile-and-a-half unmade track in the wilds of Sussex, surrounded by atavistic technology – nobody without a four-wheel drive comes anywhere near this place unless they're lost, or invited. And with the front door effectively barricaded with guitars and PA speakers, security has never been anything to be nervous about.

But security, like most things in life, is relative. And while I never really got on with my relatives, like most people round the world, security, personal and otherwise, has suddenly become something we all might need to start taking a bit more seriously. Even for a generation bred on the finest CGI and digital special-effects, watching what we'd normally expect from an horrific and relentless disaster movie unfolding in real-life – and in real-time – is a haunting and deeply disturbing distortion of what normally passes for comfortable, complacent reality.

### Red menace

Exactly a week after the attacks on New York and Washington DC, a new virus-like attack struck large companies, and its rapid spread threatened to slow the Internet to a crawl. US Attorney General John Ashcroft warned that the computer outbreak could become worse than the "Code Red" worm that appeared last summer. Although Ashcroft said there is no evidence linking the worm to the terrorist attacks, this malicious software program, known as W32-Nimda, is complex and designed to spread to people who open infected email or visit infected Web sites. The worm apparently generates excessive traffic on the Web, creating a treacle effect, and users end up thinking the Internet has simply gone down.

The worm can spread in many different ways, although it tends to infect Web sites running Microsoft's Internet Information Services software, just as the recent "Code Red" worm did. Once a Web site is infected, any Web user accessing it can get the worm. Once one computer on a company network is infected, it can also travel across the network to attack others. Together, this can cause an entire corporate network to be infected if even a single worker visits an infected site. More worrying is the fact that it can send itself through an email attachment. The sender address is faked, and may be a well-known address. Researchers have said they aren't sure how the address is generated but the attachment may be named "README.EXE."

In addition to the maelstrom of junk messages slowing down Internet access, it can also overwrite critical Microsoft Windows system files. Due to the many different ways it can spread, all Windows users can be infected with the worm. Nimda changes the Web content to attack Microsoft Internet Explorer browsers visiting the site. Once successful, it will start a second life as an email-based worm, spreading to address-book contacts. It then also seriously compromises the security of the client machine.

### Spreading infection

Scanning activity thus far indicates that this could be heavier than the July activity of Code Red, and Computer Associates has said that 10 to 20 large multinational-companies are infected, though the total infection level is unclear. By now, infected computers could be in the tens of thousands. At its peak, Code Red infected several hundred thousand computers.

It would seem that the new worm could take the same number of computers infected by Code Red and do far more damage. Despite the worm's threat, it still spreads through known security holes – particularly in Microsoft systems – and relies on computer administrators who have been lax in updating their systems. Reports suggest that the worm tries to wriggle in through 16 known vulnerabilities in Microsoft's IIS, including the security hole left in some computers by the "Code Red II" worm, which followed Code Red in August.

The FBI's National Infrastructure Protection Centre warned that a hacker group called the "Dispatchers" said it would attack "communications and finance infrastructures". Strangely enough, the Dispatchers have also recently defaced Middle Eastern Web sites in an apparent retaliation for the terrorist attacks, so its difficult to figure out precisely where they're coming from. As usual, the Macintosh community has been relatively unaffected, apart from occasional difficulties getting onto sites operationally locked into the Microsoft monopoly.

As Macintosh users, we're a pretty secure lot. We've got the coolest kit in the world. We've got processors that run rings round anything Intel can cobble together. Very few viruses ever attack Mac systems. We can even run nearly all of that disease-ridden Microsoft software currently polluting the market... if we really want to. But out there in the really wired world, security remains relative and we're just a small feature of a much larger and significant picture. Smugness has gone out of fashion and if, or when, that picture turns ugly, nothing – least of all a Macintosh logo or even a small blue plaque on your backdoor – will guarantee immunity forever.

**'Smugness has gone out of fashion, and if things turn ugly, nothing will guarantee immunity forever.'**

MW



**High-end 3D**

## Maya 3.5 for Mac OS X

**Publisher:** Alias|Wavefront  
00800 4125 4125  
www.aliaswavefront.com

**Pros:** Impressive NURBS modelling; world-class dynamics simulation; extremely versatile and customizable; excellent animation toolset, including non-linear editor.

**Cons:** Paint Effects and rendering can be slow; limited Altivec and multiprocessing support now; very expensive.

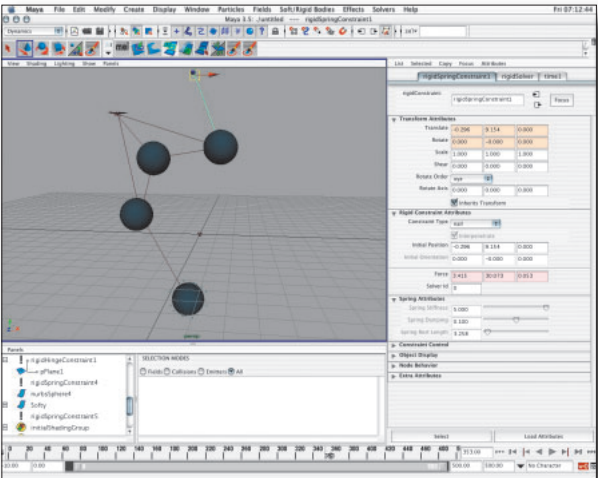
**Price:** £6,360 excluding VAT. Buy before December 31, and you get 12-months' free support and upgrades.

**Min specs:** 450MHz or above G4; three-button mouse; Mac OS X Release 10.0.4; ATI Rage 128, Radeon or Nvidia GeForce2 graphics card; 256MB of RAM minimum (512MB recommended).

**Star Rating:** ★★★★★/9.3

### Over sphere

Maya's Dynamics are vastly superior to most other systems. Here, a collection of rigid and soft body spheres are connected using springs, a hinge and a pin constraint. They all move and collide in real time under the forces of the springs and gravity.



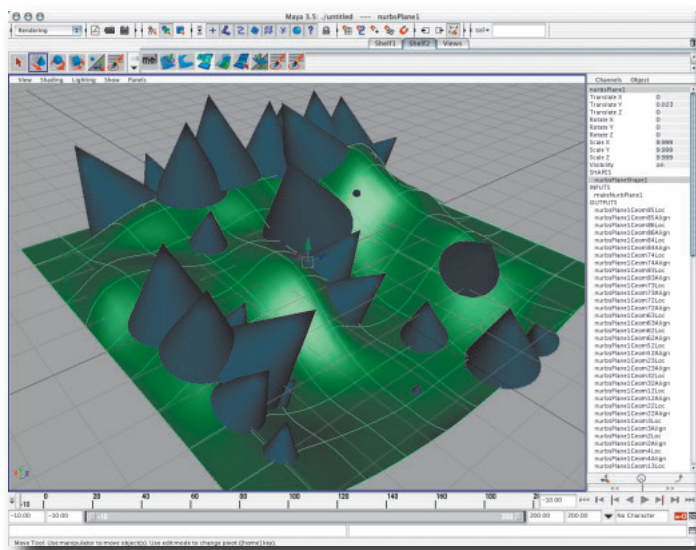
Maya is an important release for OS X in particular and the Mac in general. It's a high-end 3D animation program of considerable proportions that represents the Mac's coming of age in 3D. It's big – not just in terms of disk space (a full install takes 280MB), rather it's the most complex program ever made available for the Mac.

Maya has an estimated 25 million lines of code, and can boast some of the most powerful 3D tools available. In its short history, it has become the standard by which all other high-end 3D programs are judged. It's no wonder that companies such as ILM and Pixar use Maya for much of their computer graphics and effects work.

Installing Maya is pretty simple, but it does require you to log-in to Mac OS X as 'root', the system super-user – something Apple doesn't encourage. This is necessary for the installation of the Flexlm licensing software that protects Maya against piracy. Thankfully, there's no dongle involved; all you need to do is email your computer's Ethernet hardware address to Alias, which generates a licence-file for your machine. Once that step is complete, Maya can be launched. For more on X's root, see Mac OS X Secrets, page 139.

After a few moments the main interface appears, replete in full Aqua livery. This is clearly not a hacked-together port, with care taken to get the aesthetics of the user-interface right. And there's phenomenal power beneath that cool Aqua exterior.

The way Maya works internally is part of the reason why it is so powerful. Basically, everything in Maya is a 'Node', and these nodes have inputs and outputs – also known as attributes – that can be connected together. You don't ever have to deal with nodes directly if you don't want to, but because you can, there's a great deal of flexibility for power-users to tap into. An example of working with nodes would be connecting the red colour-input



of a cube's shader node (a shader defines the material properties of an object when it is rendered) to the y translation output of a sphere's transform node. As you move the sphere in the y axis, the cube becomes redder. This is a very simple example, but the principle can be applied to much more complex systems, too.

### X model

The main interface consists of a large OpenGL viewport sandwiched between rows of tools at the top and a timeline at the bottom. To the right is the Channel Box, an important part of the interface that lists the keyable attributes for a selected object. It also displays the steps in an object's Constriction History, and this is the second powerful aspect of Maya.

With History enabled, all the modelling steps taken to create an object are stored in a list. When you click on one of them in the Channel Box it unfurls to display any associated attributes – allowing you to make changes to them, or even to delete the step entirely. It provides a nonlinear undo – but it's more than that because you can change the history, not simply take steps backwards.

For modelling, History is crucial. You can use curves to create a profile, extrude, or sweep it along a curve rail to create a 3D surface, but you can also go back to change the shape of the original curves to modify the 3D shape. This is a feature that's been available in numerous 3D programs on the Mac for a while – such as Cinema 4D XL and SolidThinking – but Maya takes this concept much further. You can move the points that make-up the 3D surface, and still be able to tweak the curves without losing those surface edits. You can also deform the 3D object using some of Maya's tools, add geometry,

### Do know much about geometry

Artisan geometry paint-script allows you to paint objects onto surfaces. Notice, the cones always lie perpendicular to the undulating surface.

remove geometry, and still be able to edit the source curves. Pretty impressive stuff.

There are a lot of other interesting interface devices that Maya has in order to maximize productivity and workflow. Each pane can be changed to display any of the other Maya panels, such as the Render view, Outliner or Graph Editor, and you can choose to divide the display into different layouts – such as two views stacked, or side-by-side, two views over one etc. Tapping the space bar with the mouse over any of the panes expands it to fill the workspace – a great way to focus on a particular task.

If you hold the space-bar down, however, something different happens; the Hot Box pops up. This consists of a few rows of menus and four regions like those of a compass. These let you access the usual menus in Maya right beneath your mouse, but the regions pop-up further arranges menus in a radial array. By default, they display interface-related tools, but can be customized to display whatever commands you like.

The theory is that, as you use Maya, you forget to look where the commands are, and instead rely on 'muscle memory' to find them. This is great in theory, but the display tends to take far too long to pop-up, so you end up watching it anyway. There are also other menus that pop-up called the Marking Menus, and these can be accessed without the Hot Box, by holding a modifier key and clicking. Speaking of clicking, Maya absolutely requires the use of a three-button mouse. As Mac OS X supports

### Macworld Rating

★★★★★/9.0-10.0 = OUTSTANDING   ★★★★★/7.0-8.9 = VERY GOOD   ★★★/5.0-6.9 = GOOD   ★★/3.0-4.9 = FLAWED   ★/0-2.9 = UNACCEPTABLE

three-button mice, Alias ships such an input device with Maya.

Scenes are displayed using OpenGL, and, thanks to Apple's native support for it and Maya's speed, the displays are fast. Even using a humble ATI Rage card, we could navigate complex scenes quickly, though a faster card such as an ATI Radeon or Nvidia GeForce will be better.

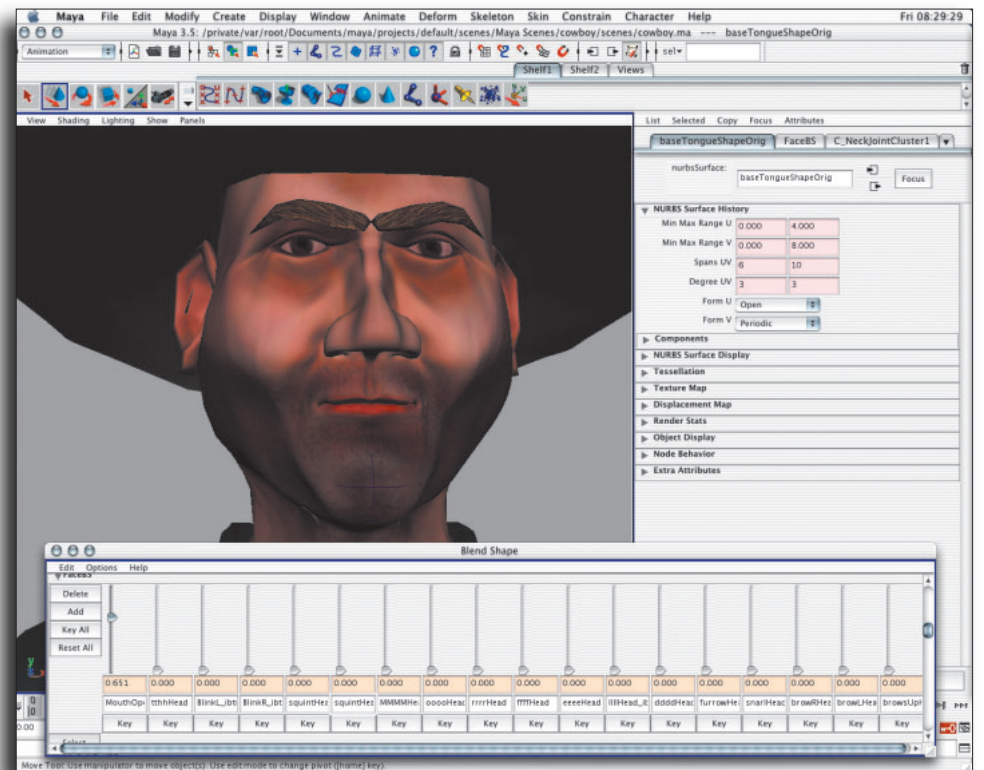
Working with objects in the Perspective view is fluid, thanks to on-screen manipulators that let you move, scale and rotate objects or their components using any axis. You can also use 'virtual sliders' by selecting an attribute in the Channel Box and dragging with the middle mouse button to change its value interactively.

Polygon modelling is good, though it's not as fluid and direct as in apps such as the much cheaper LightWave (version 7 will be reviewed in our next issue). There's also no Subdivision Surfaces in this version. However, NURBS modelling is extremely good, with the system supporting trims, fillets, bevelling, surface blending and stitching, and other high-end features. When creating a 3D character, you can construct it out of many different 'patches'. This is often the only way to create such a shape using NURBS, an inherent limitation. Maya's Global Stitch tool allows you to bind the patches together at their edges to form a continuous surface. The tool prevents the patches from splitting when the character is animated and deformed.

### Artisan artist

Another tool in Maya's arsenal is Artisan. Artisan technology lets you paint onto objects to perform an operation. Painting textures is one obvious use, but you can paint other things too. The Sculpt Paint tool uses Artisan to sculpt geometry. You can take a simple NURBS or Polygon plane, and use a brush to interactively 'paint' a landscape with hills and valleys, or to mould a character's face, or add dents in objects. A Script Paint tool lets you use any MEL script (Maya's built-in scripting language) to modify the tool. A quick visit to a Maya resources site, and we downloaded the GeometryPaint script which allows you to paint objects on to the surface of another. This could be used to paint a forest of trees on the landscape, or stubble on a character's face.

Once objects are created, it's on to the task of animating them. Maya offers a wide choice of animation possibilities, from standard motion-keyframing to dynamics and blend shapes – a kind of morphing. The keyframing tools are impressive. You can create keyframes to transform objects, and use the Graph Editor to fine-tune the motion using simple function curves. To speed the process of animation, you can



link attributes together, causing one to drive the other. The Set Driven Key feature lets you do this quite simply, and can be used, for example, to link the rotation of a character's knee joint to the motion of a group of points on the character's thigh. As the knee bends the thigh muscles bulge. The point here is that the bulging will occur every time the knee joint is moved, reducing the amount of work an animator has to do.

To further refine the animation process the Trax editor provides nonlinear animation capabilities, allowing animators to blend between multiple layers of animations on a single character. Transitions between the clips merge one sequence smoothly into another, and you can easily reuse sequences, change their timing, or loop them simply by dragging the clip in the Trax editor. There's no need to animate an entire sequence from start to end; it can be built-up from a pre-saved library of poses and actions that an animator (or teams of animators) create.

### Mental render

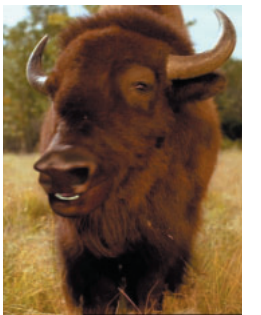
Creating materials is another of Maya's strengths. You can build 'shading networks' by linking different shaders and textures together using the graphical Hypershade panel. The Interactive Photorealistic Renderer allows artists to see the results of changes to materials and lighting as they are made on a near-final-quality render. Final rendering quality is very good,

though it can take time to get great results – which many may find surprising for such an esteemed package. Maya has always been criticized for having a less-than-excellent renderer, which is part of the reason that Alias announced that it will try to link Maya with Mental Images' acclaimed rendering solution, Mental Ray. Availability of Mental Ray for the Mac is uncertain, though. The main problem with Maya's renderer is that it can be very slow, especially when using raytracing. It's not disastrous, but for the price you'd expect better. Altivec optimization should ease this bottleneck in future Mac versions, we hope.

Despite the rendering problems, there are plenty of redeeming features. The Dynamics system is just about the best money can buy. Maya was used to create the realistic pod-race sequence in *Star Wars Episode 1*. The crashes in which pod engines were seen disintegrating into thousands of pieces were created using Maya's rigid-body dynamics and collisions. Using the system is actually quite easy. You simply define the objects that you want to be dynamic, add forces and constraints, and let the system go. The impressive thing is the speed with which the dynamics are calculated, even on a relatively ponderous 450MHz G4. You can also create soft-body dynamics to simulate deforming surfaces such as cloth, rubber, jelly, and flesh.

### With blends like these

Blend Shapes let you do morphing using sliders to control the weight of each morph on the base object.



continues page 59

Using Artisan, you can paint soft body 'weights' to control their effect. A cape can be made into a soft body so that it blows in the wind; to prevent it simply flying off, you paint zero weight where it attaches to a character's neck. The cape then flaps away while maintaining its attachment location.

Robust and easy-to-use joints, IK and deformers for animating characters, cluster animation for animating surface points, and Blend Shapes all contribute to Maya's animation power. Blend Shapes are essentially morph targets, making them ideal for facial animation.

Using a slider-based interface, you can blend many different targets to produce varied facial expressions.

One let-down was Paint Effects, Maya's unique system for creating dense, dynamic effects such as grass, foliage, electric sparks, and such. We've seen it on PC systems, and it's very impressive – but on our Mac it was extremely slow. Simple Paint

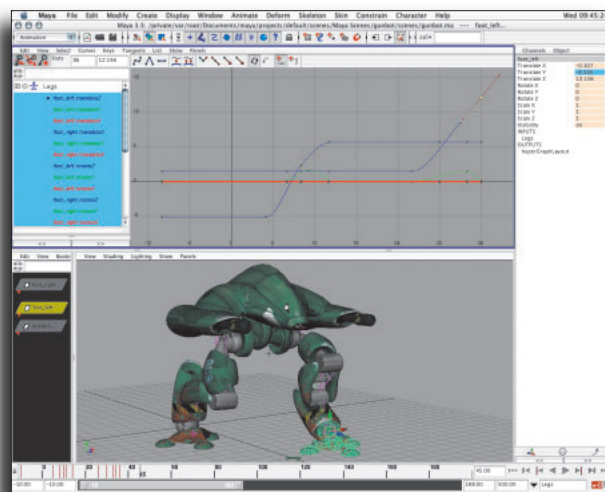
Effects work is possible, but trying to create the rich, complex renders we have seen this technology produce bogged down the machine to the point of being unusable.

## Macworld's buying advice

Despite a few interface glitches, Maya remains a breathtakingly powerful 3D system – and the Mac will be all the better for it. The only major concern is the £6,360 price tag. You'll also have to pay a regular support fee, to entitle you to upgrades that Alias produces every six to eight months.

The bottom line, though, is that Maya will not be the ideal solution for everyone, but its appearance on OS X should help to boost the Mac's popularity in 3D graphics. For those who desire the utmost power and flexibility to create anything from film and TV effects and dynamic simulations, to games and high-end character animation, Maya for OS X is difficult to beat.

**Simon Danaher**



## iRobot

Maya has excellent animation-editing tools. Here, the Graph Editor is being used to control the Robot's foot steps.

Unlike most inkjet printers, HP's Designjet 10ps is produced specifically for graphic designers. It's the entry point in a range that also includes the Designjet 20ps and (from January 2002) 50ps. Compared to other inkjets, the Designjet 10ps might seem a little steep at £708. However, the Designjet is not your average inkjet. It's a genuine colour-proofing device, along the lines of the Epson Color Proofer (£3,495), but a lot cheaper.

It can do most of what the Epson can do, but there's a big difference. Unlike the Epson, the Designjet doesn't have a hardware RIP (Raster Image Processor). This means that print speeds are slower with the Designjet, at least with the entry-level Designjet 10.

Most graphics and page-layout applications use Adobe's PostScript technology, a more memory-efficient way to describe graphics than standard bitmap images. Inkjet printers print bitmap images, so a PostScript translation needs to be made. Laser printers use internal PostScript RIPs, and the Epson Color Proofer uses an external Fiery RIP. The HP Designjet 10ps uses your Mac to do this image processing, which means PostScript printing, but slower performance. While printing, you may as well go and make a cup of tea while your Mac is busy RIPping images.

Apart from the cheaper (the Fiery on its own costs £1,295) but slower RIP solution, the Designjet is impressive. It has A3+ paper capability, so you can print a double-page spread with full bleed, registration and crop marks.

The point of a proofer is to achieve accurate colour, and the Designjet has a few tricks up its sleeve for colour

consistency and accuracy. It has a six-ink system using dye-based inks. This enables it to print 90 per cent of Pantone spot colours. It can also emulate different printing presses, such as EuroScale, SWOP, DIC and TOYO. There is also support for ICC profiles and ColorSync colour management.

HP has made a point of saying how fast this printer is, and, under the right circumstances, it is. However, the fact that your own machine is acting as the RIP means that its speed is determined by the performance of your Mac. Even a fast machine (such as my 466MHz Power Mac G4) took over ten minutes to process a single page. Once the processing is finished, the actual printing is pretty quick. This is due to a half-inch print swath that can cover more paper in a single pass than the smaller consumer models.

Image quality is excellent. The same quality can be achieved with some consumer inkjets, but the crucial difference is that this printer prints genuine PostScript images with highly accurate colour reproduction.

The average inkjet can't do that, and that's the reason that graphic designers usually have to shell-out cash for expensive Cromalins. The Designjet also has a duplex (double-sided printing) unit attached for accurate booklet proofing.

If you are using Mac OS X, you'll have to wait until early next year for native drivers for the Designjet. Until then, you need Mac OS 8.5.1 or better, or you'll have to print from X's Classic mode.

## Macworld's buying advice

The Designjet 10ps is ideal as a personal printer for a single designer. The cost per



Cromalin-quality print works out so much cheaper than constantly coughing-up for expensive cromalins. The unit price is certainly amazing and the quality impressive – but the speed many designers yearn for simply isn't there.

The £1,236 Designjet 20ps offers networking for workgroups (plus a second 250-sheet paper tray), but still requires a dedicated Mac to act as a RIP.

You could use any USB Mac – for instance, an iMac of any age – to power the RIP, but remember that the faster the Mac, the speedier the RIP. The 50ps features an even more sophisticated RIP made by Heidelberg. For more information on the 20ps and 50ps Designjets, see *News, Macworld*, October 2001.

What this printer needs is a hardware RIP, but that would boost the price to something closer to the Epson Color Proofer. You'll save yourself £3,000 by buying this instead of the Epson proofer and RIP, but the Designjet 10ps isn't a good choice for anybody in a hurry who doesn't have a speedy Mac to spare.

**David Fanning**

**Designjet 10ps**  
**Manufacturer:** HP  
[www.hp.com/uk](http://www.hp.com/uk)  
**Distributor:** RES  
0118 989 9450  
**Pros:** Top-quality budget proofing for designers.  
**Cons:** No hardware RIP, so it ties up your machine while printing, or requires separate Macintosh.  
**Price:** £708 excluding VAT.  
**Min specs:** USB.  
**Star Rating:** ★★★★★8.5





Effects and retouching

## Commotion Pro 4.0

**Publisher:** Pinnacle Systems  
01895 424 228  
www.pinnacle.com

**Pros:** Smooth workflow; excellent compositing features.

**Cons:** Full benefit requires vast quantities of RAM; OS X support not yet available.

**Min specs:** PowerPC; OS 8.6 or later; 128MB of application RAM.

**Price:** Commotion Pro 4 is £699; Commotion 4 is £375. Both excluding VAT.

**Star Rating:** ★★★★★8.9

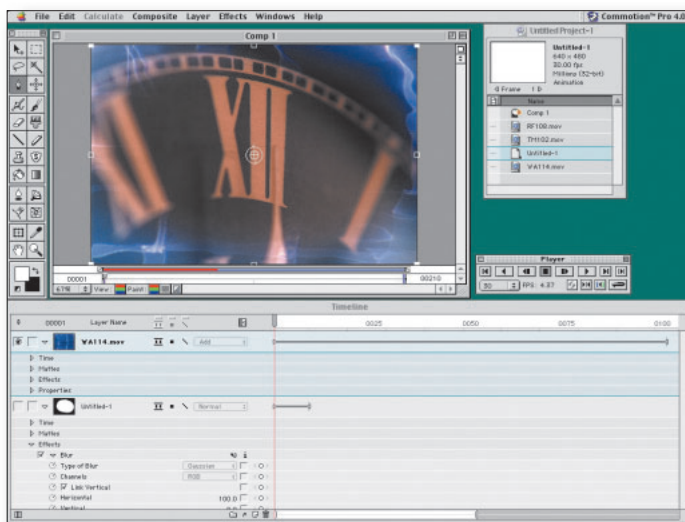
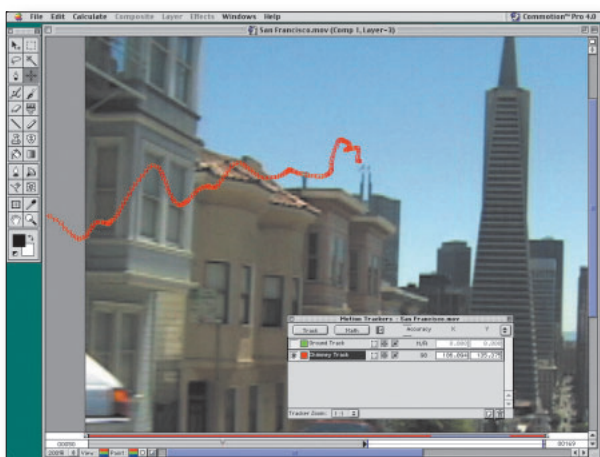
Commotion began life as a proprietary compositing and rotoscoping tool used in-house at ILM (a famous effects facility on the West coast of America owned by George Lucas). It was created by digital-effects guru and programmer Scott Squires. Commotion eventually became a commercial Mac product produced by Puffin Designs. A few versions ago it was bought by the big video-solutions company Pinnacle Systems, and it's now available for both Mac and Windows PCs. It comes in two versions, Standard and Pro; and it's the latter we have on test here.

Commotion Pro is a complete effects and retouching tool for anyone working with moving images, and version 4.0 adds some decent – though not world-shattering – new features. The most interesting aspect of Commotion, though, is its steady migration into the territory of digital effects and multilayered compositing, a stronghold of Adobe After Effects. Commotion has a solid toolset for creating mattes and compositing footage, and it can also perform some sophisticated video-painting that After Effects cannot. It has a comprehensive set of natural-media brushes for just such a purpose, and a friendly, intuitive interface. Until version 3.0, it didn't have layers – so it was not really a threat to Adobe's big effects package. Since then, Commotion has become more and more like After Effects; it even looks like it with its Project window and layered timeline.

New to version 4.0 is the ability to import layered Photoshop files. These files retain layer-blending modes, masks and transparency. You begin with a Photoshop image file, then bring it into Commotion to add animated effects. Adjustment layers don't come in, since Commotion doesn't have them, but layer masks can be problematic too. Any of the other Photoshop 6.0 layer features such as Folders, Layer Styles will also be discarded or imported as blank layers, but live text will at least come in as a rendered text-layer. A problem we found is that, with a Photoshop file imported into Commotion, you can't save

### Good on the tracks

Commotion's 2D motion tracking is very good. It enables you to stabilize shaky footage, or to flawlessly composite a 3D element into a moving background plate. The red line represents the motion of the chimney that's being tracked.



### Familiar face

The Commotion interface is friendly and intuitive, and looks a lot like Adobe After Effects. However, it has far-superior retouching and matte-creation tools.

changes to it back in Photoshop. You have to close all the layers relating to the file in Commotion (or save them as new footage files), and resave and re-import – which is a real pain, and limits the claimed integration between the two programs.

### Layering it on

However, Commotion has its own layer grouping system that allows you to create nested compositions just like you can in After Effects. It uses folders to group layers, so you can more easily manage a multi-layered composite, and you can add a single matte, effects or colour adjustments to a group folder. You can also export a layer or a group of layers as a separate file that can be re-imported and used again in different projects. This also allows you to create libraries of animations or effects settings by exporting single layers – a handy feature.

Time remapping is another new feature. It allows you to stretch a clip so that a 100-frame sequence can span 200 frames, or, conversely, shrink it to 50 frames. To prevent stuttery clips, new frames are created by blending existing ones. Clips can be stretched to any value, not just double or half the original length.

When viewing your clips – stretched or otherwise – Commotion uses RAM to play them back in real time. To maximize speed, you should try to load only as many frames as will fit in available RAM. You can access frames beyond your RAM capacity, but Commotion will start spooling frames to and from the hard disk, slowing things down. When working with multiple layers, things get even more complicated, since Commotion must render the composite and load frames to RAM to maintain real-time playback. With many layers and effects, it can get very slow.

Where Commotion excels, though, is in cleaning, retouching and stabilizing footage. It includes tools for removing wires from effects shots, creating composites, and has some advanced chromakeying. Its matte tools are exemplary, and for blue (green/red, etc) screen work there's little that can touch it. The Pro version includes the world-class Primatte Keyer for extracting a subject from any colour background, and Composite Wizard filters – for refining mattes and suppressing colour spill – result in perfect mattes, even from less than perfect footage.

Commotion has some excellent features for effects work, such as the Image Lounge plug-ins. These include the True Camera Blur filter that can accurately recreate the iris artefacts of a camera-lens system, and Real Shadow that can create a realistic graduated shadow at any angle – essential for compositing green/blue screen elements onto backgrounds. The Average Frames command that can create a high-quality still image from video or film footage (as long as there is no movement in the shot).

Commotion has become ever more reliant on fast hardware. You need bucket loads of RAM, and if you try to use it on anything but the fastest, most capacious Mac it can become leaden. This is not so much of a problem these days with memory being dirt cheap, and G4 towers capable of containing 1.5GB of the stuff.

### Macworld's buying advice

Creating sophisticated and seamless composites and retouching is Commotion's primary purpose, and it does so brilliantly. If you tend towards the effects and 3D side, then After Effects or Discreet's Effect\* may be a better option – but for dealing with real footage, there's little to beat it.

**Simon Danaher**





Try Chaos Master for yourself  
– the demo is on this month's  
Macworld CD.



### System management

## Chaos Master 1.2

**Publisher:** Casady & Greene  
[www.casadyg.com](http://www.casadyg.com)

**Distributor:** Softline  
01883 745 111

**Pros:** Finds duplicate and extraneous files; helps locate online updates.

**Cons:** Can't distinguish between necessary and unnecessary files; poor filtering; limited options.

**Min specs:** PowerPC;  
Mac OS 8.1-9.x

**Price:** £59.99 including VAT.

**Star Rating:** ★★☆☆/5.6

## Spring Cleaning 4.0

**Publisher:** Aladdin Systems  
[www.aladdinsys.com](http://www.aladdinsys.com)

**Distributor:** Softline

**Pros:** Finds duplicate and extraneous files; helpful iClean utility; multiple options.

**Cons:** Can't distinguish between necessary and unnecessary files; poor filtering.

**Min specs:** PowerPC;  
Mac OS 8.1 or higher.

**Price:** £49.99 including VAT.

**Star Rating:** ★★☆☆/6.3

While rummaging through your System Folder, you have undoubtedly discovered that your hard drive is crammed with what appear to be unnecessary files. Wouldn't it be wonderful if there were a utility that could help you cull those dispensable documents and applications? Two utilities – Casady & Greene's Chaos Master 1.2.1 and Aladdin Systems' Spring Cleaning 4.0 – provide a measure of help, though they lack the means to make intelligent choices about which files should go and which should stay.

### Something in common

Both Chaos Master and Spring Cleaning scour your Mac's hard drive for duplicate files, unattached aliases, empty folders, orphaned preferences, and Internet cache files. In addition, each allows you to uninstall applications and their associated files, and to slim extraneous code from "fat" applications – those that include both PowerPC and 680x0 code.

The two programs aren't identical, however. Aside from being the only one that runs natively in Mac OS X, Spring Cleaning has two features Chaos Master doesn't: a MailCleaner module that lets you remove attachments from Eudora, Outlook Express, and Entourage email archives; and iClean, a useful utility (also sold separately) that lets you selectively remove Web cookies and delete Internet history files. But only Chaos Master can check the version number of your applications and control panels and provide links to online updates – see "Bring out your dead", above.



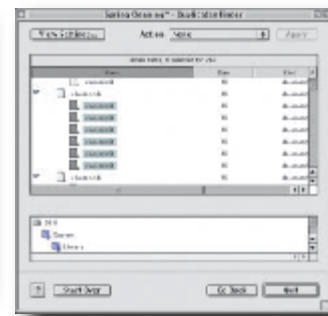
### Bring out your dead

Chaos Master helps you avoid problems with out-of-date applications and control panels via the VersionTracker.com Web site.

### Spring ahead

Spring Cleaning is the more thorough of the two programs. In our tests, Chaos Master was unable to find a duplicate copy of SimpleText that Spring Cleaning had no trouble locating. Spring Cleaning also unearthed a greater variety of Internet cache files. And it offers far more options for dealing with files once you've found them – you can launch them, trash them, or move or duplicate them to a folder or a StuffIt archive, and you can undo some of these actions with Spring Cleaning's Restore command. With Chaos Master, you can only launch, trash, or move files, and the program lacks a Restore command.

But Spring Cleaning can be too thorough. When looking for duplicates, for instance, it lists not only real duplicates but also files that simply have the same name. While the program clearly indicates that



### Guessing game

Care to take a stab at which of these Mac OS X files are disposable?

you should be careful about discarding them, unwary users could easily jettison important files. This thoroughness might be less problematic if Spring Cleaning offered more-comprehensive filtering. Alas, its filters are too broad. For example, the MailCleaner module lets you filter attachments only by date and name. The ability to exclude attachments by size and origin would also be helpful. Chaos Master's filters are no better, offering just a couple of options.

### Macworld's Buying Advice

Spring Cleaning is more useful than Chaos Master, thanks to its ability to search more carefully and extensively, particularly among Internet cache files. Used carelessly, however, either utility is more hindrance than help.

**Christopher Breen**



### Reference book

## Mac OS X: Visual Quickstart Guide

**Publisher:** Peachpit Press  
[www.peachpit.com](http://www.peachpit.com)

**ISBN:** ISBN: 0-201-70900-7

**Pros:** Concise explanations backed-up by visuals.

**Cons:** Maybe a little too matter of fact.

**Price:** £13.99

**Star Rating:** ★★★★★/8.5

The release of version Mac OS X 10.1 (see pages 80-85) and major applications optimized for it (such as Microsoft's Office v.X, see pages 87-91) are sure to increase the swelling ranks of users for Apple's next-generation operating system. Some of these people will be experienced Macintosh users; others will be newcomers to personal computing.

While Mac OS X has many navigational strengths that OS 9 can only dream of, old Mac hands are going to take time to get used to the new ways. Almost immediately, you miss the functionality of the old Apple and Applications menus, and rail against the Dock. To start with, many will get lost in the new Finder views. And, as anyone who's kept up to date with Photoshop or Office will tell you, learning new shortcuts makes you curse your own fingers.

Like *Mac OS X for Dummies* (reviewed, August 2001), Maria Langer's *Mac OS X: Visual Quickstart Guide* is a great help for experienced Mac users and novices alike. Both books cover much the same ground, but Langer's has many more screenshots, and is less chatty.

The 250-page *Visual Quickstart* book takes a step-by-step approach, using screenshots to guide your every mouse roll and keyboard tap. Areas covered include: OS X setup; Finder basics; file management; Finder techniques, applications; printing; Internet; Sherlock; and System Preferences.

There are quick tips all along the journey to enlightenment, as well as a decent section on Apple's iTunes. Nowhere near enough space is given to Apple's excellent iTools – although the *Dummies* book is equally brief on this important part of Macintosh computing.

### Macworld's buying advice

If you're fearful of making the move to OS X, get both books. Where *Dummies* goes into more general details – it talks



you through plugging in a printer before explaining OS X's Print Center, for example – and makes a few jokes along the way, the *Visual Quickstart Guide* calmly shows you exactly what each stage of the OS X process looks like, and explains your options concisely. With both at your side, you'll quickly get to grips with Apple's new operating system – and more easily jump into a safer, more modern world of personal computing.

**Simon Jary**

Read our sample chapter of *Mac OS X: Visual Quickstart Guide*, included as a free booklet with this issue of *Macworld*. A 25% discount is available to *Macworld* readers; go to [www.it-minds.com/goto/vqsguides](http://www.it-minds.com/goto/vqsguides) for full details. Apologies for the incorrect URL on the back of the booklet.







**CanoScan FS4000US**  
Manufacturer: Canon  
Star Rating: ★★★★★/6.8

**ArtixScan 4000t**  
Manufacturer: Microtek  
Star Rating: ★★★★★/8.1

**Dimage Scan Dual II AF-2820U**  
Manufacturer: Minolta  
Star Rating: ★★★★★/6.8

**Dimage Scan Elite F-2900**  
Manufacturer: Minolta  
Star Rating: ★★★★★/8.4

**Coolscan IV ED**  
Manufacturer: Nikon  
Star Rating: ★★★★★/8.1

**Super Coolscan 4000ED**  
Manufacturer: Nikon  
Star Rating: ★★★★★/8.5

**SprintScan 4000**  
Manufacturer: Polaroid  
Star Rating: ★★★★★/8.9



F latbed scanners do a great job on prints and other paper-based art, and a decent job on medium- or large-format film. But if you want to scan 35mm or APS film (and wind-up with a print that's bigger than a postage stamp), you need a film scanner. The good news is that film scanners have never been more affordable.

Macworld Lab rounded up seven 35mm film scanners, all priced below £1,300 (including VAT), and put them through their paces. Although we were impressed by the scanners' quality, we found significant differences in cost, resolution, dynamic range, speed, and the usability of their accompanying software.

The scanners fall into two classes: the Canon CanoScan FS4000US, the Microtek ArtixScan 4000t, the Nikon Super Coolscan 4000ED, and the Polaroid SprintScan 4000 all offer 4,000-pixels-per-inch (ppi) resolution; the others – the 2,438-ppi Minolta Dimage Scan Dual II AF-2820U, the 2,820-ppi Minolta Dimage Scan Elite F-2900, and the 2,900-ppi Nikon Coolscan IV ED – capture fewer pixels. All the high-resolution scanners have SCSI interfaces, except the Super Coolscan, which is FireWire-only; the CanoScan has both SCSI and USB. Alone among the lower-resolution scanners, the Dimage Scan Elite has a SCSI interface; the Dimage Scan Dual and the Coolscan are USB-only.

Just two of the scanners we tested were compatible with Mac OS X. The Dimage Scan Dual did fine in OS X's Classic mode, as did the CanoScan (when we selected its USB port).

The sharper image

We found that the 4,000-ppi scanners captured more detail than the lower-resolution models, rather than simply creating a larger file, but we also found that they were merciless regarding flaws in the original images – chromatic aberrations in lenses and softness due to camera shake are much more obvious at high resolutions. The Super Coolscan produced sharper scans than the ArtixScan and SprintScan, and the CanoScan was the least sharp (though the differences were slight).

We found surprisingly little difference in the amount of detail revealed by the 2,438-ppi Dimage Scan Dual and the 2,900-ppi Coolscan. The Dimage Scan Elite produced scans that were slightly sharper than those from the other lower-resolution scanners, but we had to look very hard to find the differences here, too.

Vendor claims about dynamic range – the range of tones a scanner can capture, from light to dark – can be hard to judge, because there's no universally accepted method of measurement.

Most specifications give a maximum density (dMax), but they don't quantify the amount of noise present.



We found that the Super Coolscan, for which Nikon claims a dMax of 4.2, did a poorer job of pulling detail out of shadow areas than the more conservatively rated scanners when used in single-pass mode. The only way we could get the Super Coolscan to live up to its dMax claim was to enable the 16x multiscanning option (which averages 16 separate scans, and hence takes 16 times longer than a single pass) and to turn off both autoexposure and colour management.

The ArtixScan pulled the most detail from the shadows, but it also introduced a lot of noise. The SprintScan produced the best detail with the least noise, and both Minolta scanners yielded decent shadow detail, despite their more conservative ratings. The Coolscan and the CanoScan both lost detail in the darkest areas, rendering them as almost solid black.

Negative findings

We were a little surprised that the Minolta scanners did by far the best job with colour negative film. The Nikon scanners blew out the highlights to solid white, as did the CanoScan. The SprintScan and ArtixScan preserved both highlights and shadows but got grainier results than the Minoltas.

We still haven't seen a scanner that can produce good results from colour negatives automatically. If you're prepared to do some fine-tuning, you can get decent results from colour negatives using any of the scanners except the CanoScan. However, you'll find that you have a lot less work to do with the Minolta scanners than with the others.

Speed bumps

Comparing scanner speeds is tricky, both because the scanners don't all capture the same number of pixels, and because speed

depends on the scanning options chosen. Of the high-resolution scanners, the CanoScan was considerably slower than the others when connected via SCSI, and even slower when connected through USB. The SprintScan was consistently the fastest when we enabled colour management in all the scanners, but the Super Coolscan took the lead when we disabled colour management.

Of the lower-resolution scanners, the Nikon Coolscan was the fastest on 24-bit scans, while the Dimage Scan Elite was the fastest on high-bit scans. The Dimage Scan Dual lagged behind both, despite capturing fewer pixels.

Controlling behaviour

All the scanners tested have decent drivers, but Nikon and Polaroid share the award for most-improved software. NikonScan 3.0, which drives both Nikon scanners, is so much better than its predecessor that it's barely recognizable.

Polaroid still bundles the idiosyncratic PolaColor Insight, but now it also includes the very capable Silverfast plug-in from Lasersoft.

Microtek has also improved its plug-in driver to fully support ColorSync, and it offers a complete set of tools for tweaking scans. The software from Minolta and Canon is more rudimentary.

Both Nikon scanners include Digital ICE3, a system for detecting and removing surface defects. The software does an amazing job of eliminating dust and scratches, though it lengthens scanning times considerably, and softens the image somewhat. If you always scan pristine film in a clean room, ICE3 has little to offer you. If you deal with a lot of old, damaged originals, it's a lifesaver.

Film scanners compared

| COMPANY  | PRODUCT NAME                    | STAR RATING | PRICE (inc. VAT) | CONTACT                                   | RESOLUTION (pixels per inch) | INTERFACE | PROS  | CONS  |
|----------|---------------------------------|-------------|------------------|---|------------------------------|-----------|---|---|
| Canon    | CanoScan FS4000US               | ★★★★/6.8    | £699             | 0121 680 8062<br>www.canon.co.uk          | 4,000                        | USB, SCSI | Least expensive in its class.   | Rudimentary software; slow                                      |
| Microtek | ArtixScan 4000t                 | ★★★★/8.1    | £699             | 01782 753 300<br>www.microtekeurope.co.uk | 4,000                        | SCSI      | Includes calibration target and profiling software.                         | Expensive; grainy results from colour negatives.                |
| Minolta  | Dimage Scan Dual II AF-2820U    | ★★★★/6.8    | £379             | 01908 200 400<br>www.dimage.minolta.com   | 2,438                        | USB       | Inexpensive; good results with colour negatives.                            | Lowest resolution; limited dynamic range; rudimentary software. |
| Minolta  | Dimage Scan Elite F-2900        | ★★★★/8.4    | £849             | 01908 200 400<br>www.dimage.minolta.com   | 2,820                        | SCSI      | Excellent results with colour negatives.                                    | Rudimentary software.   |
| Nikon    | Coolscan IV ED                  | ★★★★/8.1    | £659             | 020 8541 4440<br>www.nikon.co.uk          | 2,900                        | USB       | Very good software; automatic dust and scratch removal.                     | Needs multipass scanning to obtain best results, hence slow.    |
| Nikon    | Super Coolscan 4000ED           | ★★★★/8.5    | £1,299           | 020 8541 4440<br>www.nikon.co.uk          | 4,000                        | FireWire  | Very good software; automatic dust and scratch removal; good dynamic range. | Needs multipass scanning to obtain best results, hence slow.    |
| Polaroid | SprintScan 4000 Editors' Choice | ★★★★/8.9    | £599             | 01582 632 000<br>www.polaroidwork.com     | 4,000                        | SCSI      | Excellent software; speedy; excellent results from positives.               | Grainy scans from colour negatives.                             |

Macworld's buying advice

It's difficult to pick a clear winner from this very capable bunch, but we declare the Polaroid SprintScan 4000 the all-around champ – it's fast, produces excellent results from positives and decent results from

negatives, comes with excellent software, and is reasonably priced. Our runner-up is the Nikon Super Coolscan 4000ED; it produces excellent scans, even with damaged originals – but only when you use the multipass scanning feature,

which slows scanning to a crawl. Finally, if you scan negatives rather than positives, the Minolta Dimage Scan Elite F-2900 does a great job – without making you jump through hoops.  
**Bruce Fraser**

Graphics tablet/input device

### Graphire2

**Manufacturer:** Wacom [www.wacom-europe.com](http://www.wacom-europe.com)  
**Distributor:** Computers Unlimited  
020 8200 8282

**Pros:** Easy to use and to set-up; highly accurate; application-specific settings feature is valuable.  
**Cons:** Using three buttons can be a little awkward for a hardened Macintosh user; the rocking switch on the pen is awkward for the dexterously-challenged.  
**Min specs:** USB  
**Price:** £64 excluding VAT.  
**Star Rating:** ★★★★★/8.3

Wacom has updated its Graphire tablet with the launch of Graphire2, the second generation of its popular consumer mouse and pen set. Graphire2 consists of a battery-free cordless mouse, a pressure-sensitive pen, and a graphics tablet about the size of a conventional mouse mat that connects to the Mac via USB. Unlike the original Graphire, it's only available in a steel-blue colour.

As with the original Graphire, the tablet boasts a resolution of 1,000dpi, using electromagnetic resonance based on radio waves to identify the tool's position on the tablet's surface. It also has a useful, but

compact, active area of 127.6-x-92.8mm, which was fine for my needs.

Some of the greatest improvements in Graphire2 are to be found in the software driver, now at version 4.6. This controls mouse speed – but in this version, Wacom has introduced controls for acceleration that get you around the desktop faster than ever. Each device can be configured separately for different applications, so I was able to get the necessary control as I whacked the Web and ran effects in Adobe Photoshop. Once the controls are customized, they change to match whichever application is open.

The three-button mouse has been given a redesign; it's now more attractive to look at, as well as comfortable to use than its predecessor. It's also slightly heavier, which makes it more controllable than before.

The pen is also easier to grip, and feels slightly more robust and controllable than its predecessor. The side-mounted button, however, is a trap for clumsy fingers. As the owner of a full set of ten thumbs, I'd recommend the pen for use within certain applications, but not necessarily as a basic desktop navigation tool. More dextrous colleagues may disagree. The tablet ships with a detachable pen-stand, which I found a little flimsy, and eventually stopped using.

The tablet has a lift-up transparent cover – under which photos can be placed for tracing. This cover has been improved. The original version was a little too smooth,



so you could end up losing mouse control. Graphire2 offers a rougher surface, so control is much better than before.

Macworld's buying advice

This is an excellent alternative to an old-style puck mouse. The tablet sits on a 2.5-metre USB cable – so it has better reach than Apple's optical Pro Mouse. It's not just a mouse either; the pen works very well for creative graphics applications and games – hardcore gamers will benefit from its precise control, though I tend to use the mouse more frequently.  
**Jonny Evans**





Hardware audio sampler

## Emagic Xtreme Sampler EXS24

Publisher: Emagic www.emagic.de

Distributor: Sound Technology  
01462 480 000

**Pros:** Allows you to play music- and sound-effects samples digitally at the highest quality from your computer using Emagic software.

**Cons:** You need lots of RAM and a fast – ideally dual-processor – computer for best results.

**Min specs:** Emagic Logic Audio/MicroLogic AV 4.0 or higher; PowerPC 604; Mac OS 8.6 or later (USB requires Mac OS 9.0.4); 128MB RAM.

Price: £259 including VAT.

Star Rating: ★★★★★/8.2

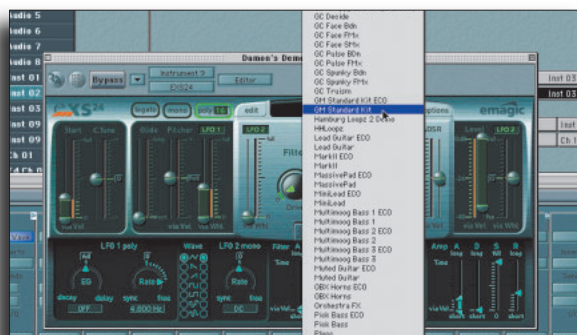
The EXS24 sampler delivers everything you would expect from a hardware sampler – at much less cost if you already own a suitable computer and audio card. Your computer's CPU provides the number-crunching, and your audio card handles the audio input and output.

A major advantage is the seamless way in which the sampler integrates into your sequencing software. Instead of editing

on the tiny displays found on hardware samplers, you have the advantage of on-screen editing plus waveform editing. The EXS24 can be opened in up to 16 Audio Instrument objects in Logic Audio – if you have enough RAM. I allocated 128MB to Logic Audio, for example. Each instance of the EXS24 offers up to 64 mono or stereo voices. How many you can actually play at once depends on the CPU speed and availability.

The EXS24 also provides high-quality digital playback at up to 24-bit and 96KHz. The audio quality you achieve in practice will depend on the quality of your D/A converters when playing back, and your A/D converters when recording new samples. The user-interface is clear and straightforward – in contrast to many hardware samplers that are far more 'fiddly' to use.

The supplied sample library is fine, but does not compete with the many libraries available from third-parties in various formats. Fortunately, the EXS24 can read and convert Akai-format samples using the Akai Convert feature in the Instrument Editor. Support for other formats is promised soon. You can load in samples using the EXS24 Instrument Editor. Here you arrange your samples into Zones (keygroups), and combine these into Groups so you can velocity-switch or layer sounds.



To achieve the best results with the EXS24 you not only need the fastest dual-processor CPU, but also lots – and I mean lots – of RAM. To get the maximum number of voices to play, for example, you need to load samples in 32-bit floating format into RAM – and 24-bit 96kHz samples (if you use these) are going to use up even more memory.

### Macworld's buying advice

Compared with the cost of buying a hardware sampler with similar capabilities, the EXS24 looks like a bargain. However, don't forget the cost of the computer, audio card and converters that you need to run the software. You could easily spend £4,000, or more, for the highest-quality kit.

Mike Collins

### Music plugging

The plug-in window available for each instance of the EXS24 gives access to all of the EXS24's synthesizer parameters. Here you can alter filter settings and envelopes, offset pitches of samples, set up portamento effects, and so forth. You can change this window to a Controls view using a flip menu in the upper window area. This view lists all the parameters, and lets you adjust them using sliders or by typing numbers – or, in some cases, using pop-up menus.



Hardware audio sampler

## Unity DS-1 v.2.1

Publisher: BitHeadz www.bitheadz.com

Distributor: Unity Audio 01440 785 843

**Pros:** Very useable sample library provided; excellent support for other sample library formats.

**Cons:** Can be fiddly to set up; uses a lot of windows.

**Min specs:** PowerPC 604; Mac OS 8.1; 300MB free space on hard disk.

Price: £305 excluding VAT.

Star Rating: ★★★★★/6.6

The Unity DS-1 – one of the first software samplers developed for the Mac – has been updated to version 2.1. Over 300MB of sounds is provided to get you started, and the Unity DS-1 can read Akai, SampleCell, Sound Designer II, AIFF, Wave, and other formats – providing excellent compatibility with existing sample libraries.

Version 2.1 has support for multiprocessor Macs with AltiVec G4 optimization, along with many other enhancements – including the ability to work as an RTAS plug-in within Pro Tools, or as a VST plug-in in applications that

support this. It also works with ASIO cards, ReWire, MAS 2.0, DirectIO and DirectConnect – providing excellent integration with Cubase VST, Logic Audio, Digital Performer and Pro Tools.

### Mixed up

Once the audio from the synthesizer is brought into the sequencer, you can apply effects, record the audio, and automate the mixdown. Record to disk 'live' or from a sequencer, or play the Unity DS-1 'live' or from your sequencer.

Using a MIDI controller such as the PhatBoy, you can even control the synth parameters in real time.

However, installation is rather fiddly, with several extra files needed to configure for OMS and for the different sequencers.

The Unity DS-1 Keyboard lets you conveniently check that everything is working OK, so you get instant gratification by simply opening the Unity DS-1 MIDI Processor to play sounds from your external MIDI controller.

Here, you can access the installed sounds, set-up splits or layers, and use the arpeggiator.

You can play sounds using the Unity DS-1 Mixer, which lets you monitor audio activity on all channels and control the global-effects processors.



### Macworld's buying advice

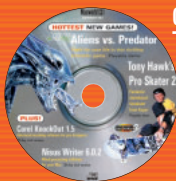
The Unity DS-1 offers integration with a wider range of software than most of its competitors, such as the E-Magic EXS24 (see review above), and has comprehensive editing, processing and mixing features. On the downside, the sheer number of windows, and the way the software is split into several separate applications, makes installation something of a pain, and operation somewhat less than instant. Technically, it performs well and sounds good, and the price is fair.

Mike Collins

### Unity at one

The Unity DS-1 Editor lets you modify the factory sounds, or create sounds using two oscillators and two filters. Apply EQ, delay, chorus and distortion effects using insert effects, and two global effects let you add overall reverbs and delays. The Unity DS-1 has up to 256 stereo-voice polyphony. The Engine supports up to 96KHz sample rate, with 32-bit internal processing. Save as 8-, 16-, or 24-bit files.





Try both these products for yourself  
— demos are on this month's  
main Macworld CD.



Image optimizer

## DocuSlim 2.1.4

Publisher: Gluon [www.gluon.com](http://www.gluon.com)

Distributor: XChange

020 7588 5588

**Pros:** Optimizes images, hugely reducing their file sizes; easy to use.

**Cons:** A few quirks.

**Price:** £129; DocuSlim Enhanced, £229. Both prices exclude VAT.

**Min specs:** QuarkXPress 4.04 or later; Adobe Photoshop 5.0 or later.

**Star Rating:** ★★★★★/8.7

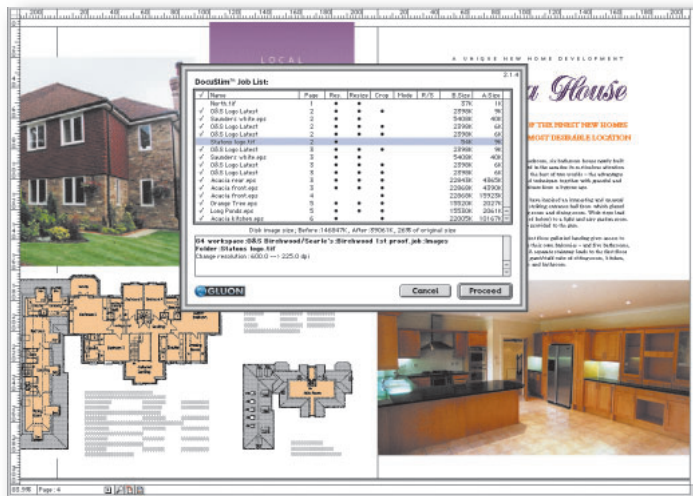
**D**ocuSlim is the panacea for all production departments. It checks a QuarkXPress document and automatically processes its images in Photoshop via the dedicated Image Robot plug-in and action set. Excess areas are cropped, images are resized and replaced at 100 per cent, and turned or skewed to be re-imported at zero rotation. It can even convert RGB images to CMYK, flip LZW compression for TIFFs, and resample to a set resolution.

The main processing dialog now offers control over each individual process, including colour-space change to greyscale, the ability to ignore master-page items, and whether to process the current page, spread or full document. Files in a particular folder can be ignored; as can images whose resolutions fall outside a range. Pasteboard items can be deleted automatically.

DocuSlim never overwrites existing files, renaming the optimized images and resulting XPress document. It used to be awkward to pick out optimized versions in a folder full of images, but v.2 lets you save all new images to a specific folder. The settings can be saved as a preset.

The Enhanced version of DocuSlim takes the process a stage further. The file format for all images can be set to TIFF or EPS, though care has to be taken when working with colourised greyscale TIFFs. These lose their colouring when converted to EPS, and yet still appear to be colourised in QuarkXPress.

*Small is best (above, right)  
DocuSlim's Job List lets you turn off any individual images you want left untouched (such as a high-resolution logo) and lists all processes that will take place. This six-page brochure reduced from 146MB to just 39MB — easily ISDNable...*



Another useful Enhanced facility is that of processing each instance of an image. A magazine might use a large version of an image in a feature and a thumbnail of it on the contents pages. Each is handled as though it was a different image, labelling the optimized versions differently.

And with the direct connection into Photoshop, DocuSlim can also make use of other action sets. Call up a Photoshop plug-in and use an effect on all selected images. There's even a facility to create low-resolution versions of images for use with OPI software or Gluon's own ArtSwapper application.

### Macworld's buying advice

DocuSlim is a lifesaver. Projects that would usually have to be burnt to CD and posted can be reduced in size and sent by ISDN or even as an emailed attachment — I've seen a 120MB A2 poster reduced to 12MB!

DocuSlim now recognizes non-Photoshop images, and visually shows which file is currently being optimized. It has a few quirks; the estimated disk-image size after optimization is sometimes way out, and it occasionally messes up text runarounds, but all-in-all it's a superb utility and thoroughly recommended.

**Vic Lennard**



Fax software

## FaxExpress Network 6.0.1

Publisher: Glenwarne  
01628 667 702  
[www.faxexpress.co.uk](http://www.faxexpress.co.uk)

**Pros:** Easy to set up and use; small memory requirement; very reliable; useful new features.

**Cons:** Bitmapped printouts unless all fonts are accessible by the server.

**Price:** Server pack, £75; 3-user pack, £175; 5-user, £225; 10-user, £400; 25-user, £700; 50-user, £1,200 (all excluding VAT).  
**Min specs:** System 7.1 to Mac OS 9.2

**Star Rating:** ★★★★★/8.5

**F**axExpress is the only device-independent networkable fax software for the Mac, requiring just a Class 2 fax modem. It offers the kind of features expected from standard fax software, including being able to fax pictures as pseudo-greyscales rather than black blocks, the flexibility to create a fax from almost any application and send it to a group of people if needed, and decent quality printouts.

Basic installation is simple enough. The server hosts the main FaxExpress Server application and FaxViewer (which controls all received and sent faxes). Each client has a Fax Chooser item plus three applications: FaxViewer, FaxStatus and FastFax. The latter is used to send a quick fax from the desktop — essentially a cover sheet without an attachment — while FaxStatus is similar to the Mac's PrintMonitor, allowing you to control the fax queue. Communication between server and clients is through FaxMessenger, a Startup Items application.

Once installed, the initial set-up is equally straightforward. Each client connects to the server via the Chooser and shares the various cover-page designs and phonebooks. Sending a fax is then as easy as holding down a hot key set via the Quick

Fax Selector Control Panel and using the normal print commands from an application's menu bar.

Version 6 retains the basic functionality, concentrating instead on improving the user-friendliness of the system. The main fax dialogues have been redesigned for ease-of-use and include a small status-box detailing the number of pages and when the fax will be sent. The phonebook has some new facilities, including multiple destinations, and there's a stand-alone phonebook editor that allows entries to be changed without having to access them via FaxExpress dialogs. Cover pages, previously rather rough-&-ready, can now be multi-page and can include graphics, a scanned signature, different typefaces, and the ability to recall the last message. Aside from the last facility, these have also been extended to the FastFax application.

FaxViewer has been substantially enhanced. Text and 'stickies' can be added to received faxes with additional highlighting tools and a new archiving system. On the server side, the Log File now records both incoming and outgoing faxes, and the first page of a sent fax can be printed with the date and time overprinted.

Other new features include de-installers



for FaxSTF and FaxExpress, and the ability to open faxes from Global Village and FaxSTF programs.

### Macworld's buying advice

FaxExpress is easy to use and almost bomb-proof. Being QuickDraw-based, it relies on having each document's fonts accessible by the server (and at least ATM Light installed for font smoothing), resulting in impressive print quality at the receiving end. If you want a reliable networked fax-system, look no further. FaxExpress delivers.

**Vic Lennard**

### Sign of the times

*New features include the ability to include graphics and a scanned signature as part of the cover page, and to recall the last message.*







## Illustrator 10

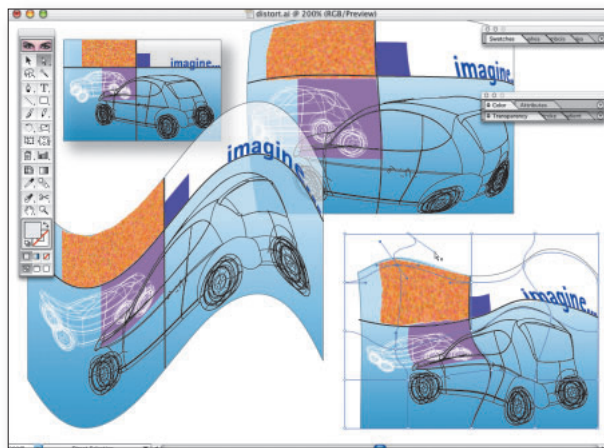
**Publisher:** Adobe  
020 8606 4001  
www.adobe.co.uk

**Pros:** Powerful symbols feature and toolset; excellent envelope distortion; supports scripting and variable data.  
**Cons:** Flash export options remain limited; no support for multiple pages.

**Min specs:** PowerPC G3; Mac OS 9.1/9.2 or X.1; 128MB RAM; 180MB free disk space.  
**Price:** £329 excluding VAT; upgrade from previous versions £115; upgrade for Photoshop, InDesign and PageMaker users £205; competitive upgrade from CorelDraw or FreeHand £205.

Not long after the release of arch-rival Macromedia's FreeHand 10 (*Macworld*, January 2001) comes an upgrade to Adobe's vector-drawing package Illustrator 10. Both are conspicuously 'Carbonized' to run natively under Mac OS X. We took a closer look at a late beta of the new version of Illustrator, to see whether Adobe's first-ever commercial OS X application really chops the Dijon. We discovered a delicious clutch of new tools, improved Web-related functions, and an excellent implementation of envelopes, symbols and other features that the program had lacked for way too long.

Illustrator lets you draw pictures with bézier vector tools, while incorporating bitmap graphics in your artwork; you can even apply plug-in filter effects to either. Over the years, Illustrator has accumulated a vast quantity of additional tools and special functions, from freeform calligraphic and scribbling tools to graphs and charts. Popular features in recent releases have included a graphic paintbrush, Smart Guides that provide on-the-fly snap-to guides for such things as diagonals and tangents, and the unique Gradient Mesh that allows you to fill an object with a multidirectional mix of colour gradients, and adjust the transitions with vector handles. The killer



### Envelope distortion (above)

An envelope is a bounding box around a selected graphic or group: by reshaping the envelope, you distort everything inside it in unison. The best Illustrator could come up with in the past was the limited Free Transform tool, or you could buy some third-party plug-in envelopes. But with Illustrator 10, a proper set of envelope features has at last been built into the program, and it's implemented really well.

As with FreeHand, for example, you can select some objects and apply one of a range of preset envelope shapes (arc, fish-eye, flag, and so on), each with its own dialog window and adjustment sliders. Alternatively, you can apply a Mesh Warp that drops not just a bounding box around the selected shapes, but a grid of vector handles over the top as well – similar to the grid used in a Gradient Mesh. You can then distort the interior of the selection independently from the outer envelope. Another approach again is to draw a custom vector shape, and then apply it instantly as an envelope to any selection. An especially nice touch with Illustrator 10 envelopes is that bitmap images contained within the selection distort along with everything else. If you're using a vector shape as a mask over a bitmap, for example text with a texture fill, you choose whether or not the bitmap remains flat or distorts accordingly.



### Slice of life

As well as tracing up Web slice outlines, Illustrator can manage slices on an object basis, automatically re-mapping the boundaries as you edit artwork.

feature in Illustrator 9 was the introduction of PostScript-clean transparency that far surpasses transparency features in any other vector package, except perhaps Deneba Canvas.

If we had to pick the killer feature in Illustrator 10, it would be the new concept of 'symbolism'. Symbols in any other drawing package are quite plain: you create a graphic, copy it to a library palette, then drag multiple copies back onto your artwork as required. This keeps your artwork compact in terms of file size, since each instance of the graphic is just a virtual placeholder to the original symbol. It also lets you edit or entirely replace that original in order to update all linked instances throughout your artwork automatically.

### Symbol city

In addition to a Symbols palette, Illustrator packs into the upgrade eight new symbol-related tools that no one else has thought of. Not content with letting you drag-8-drop symbols into artwork, or even using symbols for loading the graphic paintbrush, Adobe takes the placeholder concept and turns it into (would you believe) something fun.

First off is a Sprayer tool for pouring multiples of your selected symbol onto the page as a randomized group. You can then drag with the Shifter to nudge them around, the Scruncher to pull them closer together, the Sizer to grow and shrink them, and the Spinner to rotate them. These tools work like brushes, affecting only the symbols within the group that you actually drag over. Then you can start playing with the Stainer to re-colour them, the Screener to apply transparency, and the amazing Styler to gradually apply a different appearance to the symbolism based on selections in the

Styles palette. All these tools are pressure-sensitive if you have a Wacom tablet, although we were able to test this only under Mac OS 9.1; Wacom's long-promised Mac OS X drivers hadn't been released at the time of writing (see News, page 24).

Symbolism in Illustrator 10 represents a classic example of Adobe belatedly catching up with other vector-art packages, only to overtake and leave the competition choking in its exhaust.

A number of other new tools make their debut on the Illustrator toolbar, ranging from clever items to others we'll be charitable enough to call 'interesting'. In the former category, you can now draw fast precision curves with an Arc tool – just like you can in Canvas – along with straight-line segments and instant grids; both rectangular and polar. Another tool we liked was the Magic Wand. Instead of selecting areas based on similar colour values – as a Magic Wand normally does in a paint package – Illustrator's Magic Wand selects objects based on similar attributes. Choose which attributes to seek out (fill, stroke, weight, opacity and blending mode in any combination), determine tolerance values for each, and just click on an object on the page. Any objects that match are then highlighted immediately. You could, for example, locate all items containing the same gradient fill, and then ensure they conform to the same linear rotation.

On the (ahem) 'interesting' side of things, Illustrator 10 introduces a Flare tool. It creates lens flares as vector objects and as such, can't compete with lens flares in photo-editing packages despite some good anti-alias and fuzzing effects. On the other hand, being vector-based, the flares created are easy to move, resize, re-colour and

### Symbolic gesture

You wait ages for a symbols feature, and then a dozen turn up at the same time. Working with Illustrator symbols is more than a memory-efficient workflow feature – it's great fun.

rotate. This could be handy when exporting artwork to a package like LiveMotion or After Effects, where you can animate the flares over the top of other graphics without loss of quality.

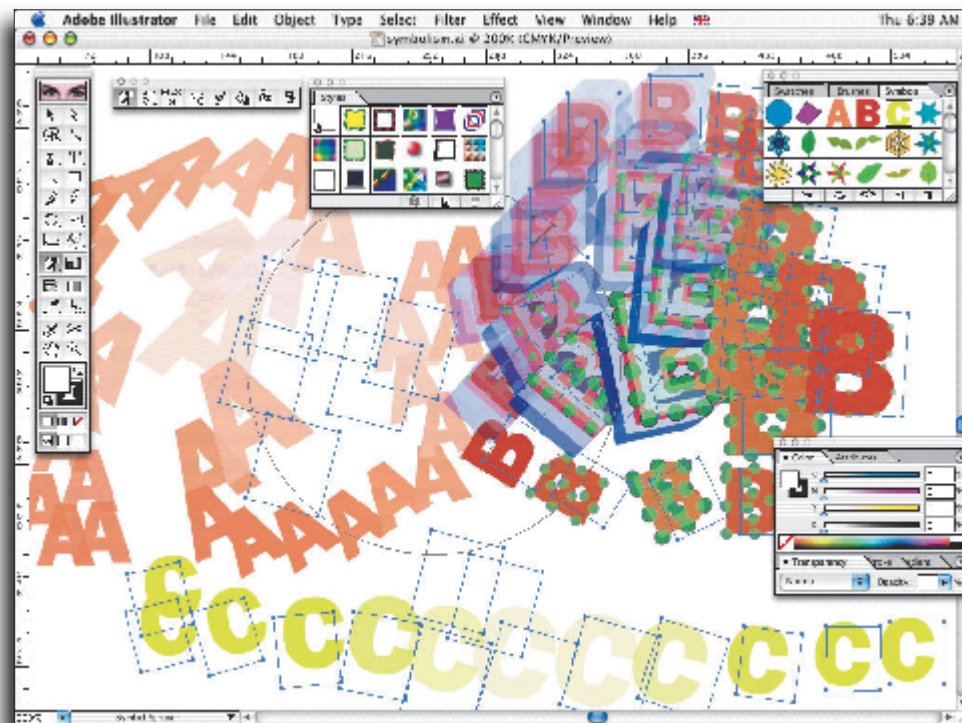
The principal new Web feature here is automated image-slicing. So while you can now prepare image slices using the pizza-cutter tool first seen in Photoshop 6.0, you can even more easily let Illustrator do all the work for you. Just select your artwork or an isolated group and tell Illustrator to slice it up; you can of course customise the number and size of the slices as preferred. The clever aspect is that nothing is actually sliced until you export the artwork, while the slice boundaries themselves conform logically rather than arbitrarily to the vector shapes that make up the graphics. This means you can carry on drawing and editing on the page, even moving sliced objects around, and let the program re-map the slices automatically in real time.

Unfortunately, Adobe hasn't taken the opportunity to boost its Flash animation export feature meaningfully, except to fill a few glaring gaps left in Illustrator 9, such as the ability to loop a frame sequence. That said, it works nicely with the Symbols palette, in that repeated objects based on symbols are filtered to the Flash file – making the file smaller. Adobe pays more attention to the rich-media SVG format it has championed for the past few years. You can open native SVG graphics back into Illustrator for re-editing and re-scripting.

### Script righting

In the area of scripting, Illustrator 10 turns out to be an unexpectedly versatile product. It is now fully JavaScriptable and AppleScriptable, making it one of the most script-customizable professional graphics apps since the release of CorelDraw 8 on the PC. More interesting still is the way you can attach external data links to graphics themselves. You can mark up objects in artwork to depend upon entries in a database, then dynamically produce multiple variable copies in an automated process. For example, a Web page can prompt a visitor for their name and favourite colour. Once entered, this data can be fed through an Illustrator-prepared document to deliver back an SVG movie that contains the visitor's name in the colour he chose. You can now apply live filter effects to SVG objects such as soft drop-shadows, and this includes text and variable data.

Beyond these important new features are a list of smaller improvements.



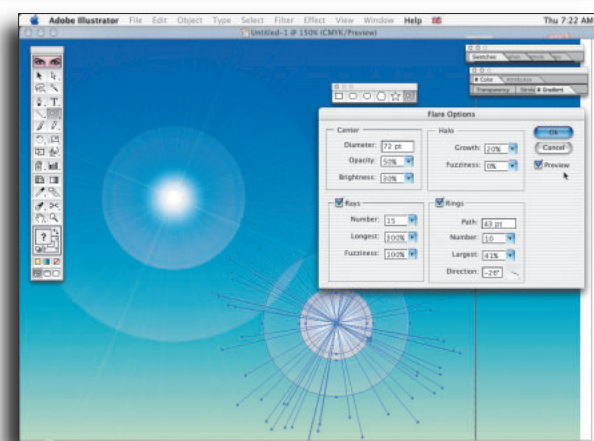
Compound shapes are now fully editable, finally putting the old one-way-trip Pathfinder tools out to pasture for good. You can create complex objects, including masks and clipping paths, by compounding a number of simple shapes, but still be able to move and manipulate the component shapes individually, or re-release them from the compound altogether.

Another issue worth noting is that certain parts of the program feel more responsive than they used to, such as screen refresh with the graphic paintbrush, although it's difficult to know if this amounts to a significant performance improvement.

Adobe software devotees should also be cheered to find that Illustrator 10 continues to work happily with its sibling packages, and, in some cases, better than before. You can rely upon layers, masks, transparency, and so on to be maintained when transferring native files to and from Photoshop 6.0. Similarly, the new slicing feature works particularly well when sending artwork directly to GoLive 5.0.

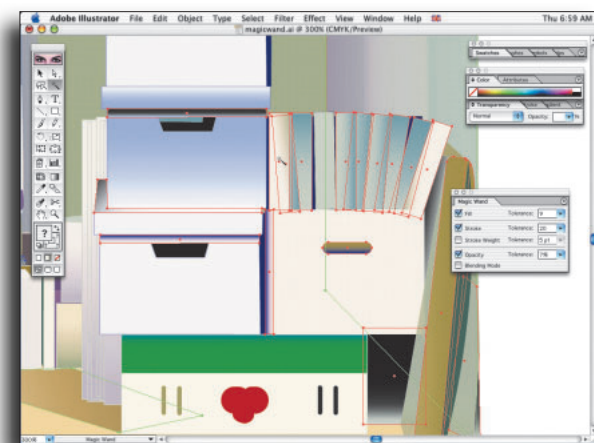
The one key issue that Illustrator 10 has failed to address is the limitation of its single-page methodology. For some designers, this is a restriction decisive enough to stop them switching from a multi-page illustration package such as FreeHand, CorelDraw, Canvas, or indeed just about anything else on the market. But existing users will adore what the upgrade brings, and the Mac OS X edition looks and runs beautifully.

That's not bad for a beta version – we can't wait to see the real thing.  
**Richard Boardman**



(Above) A lens-flare tool in an illustration package – daft or inspired? This flare remains a vector, so can be animated when exporting artwork to LiveMotion, After Effects, and so on.

(Below) You can select objects with similar fills, strokes and opacity settings with a single click using the new Magic Wand tool. It's handy for highlighting partially hidden objects, too.







Tropical dictator sim game

## Tropico

Publisher: Feral Interactive

[www.feral.co.uk](http://www.feral.co.uk)

Distributor: Softline 01883 745 111

**Pros:** Lots of detail to keep armchair dictators happy; tons of replay value, due to built-in and custom scenarios.

**Cons:** Big and complicated maps slow it down; crashes sometimes.

**Min specs:** Mac OS 8.6 or later, including OS X.

**Price:** £39.99 including VAT.

**Star Rating:** ★★★★★8.6

It's no wonder so-called god games are so very popular — they let you control entire worlds and huge populations of people (or creatures) according to your every whim. I admit, some of my darkest hours as the reigning dictator of the game Tropico were dominated by dreams of total control. Cast as El Presidente of a small Caribbean nation, I found the illusion of omnipotence going to my head.

Tropico is the latest title from PopTop Software (makers of Railroad Tycoon II), and it's published by MacSoft. It's a real-time strategy game with a 3D isometric view (or three-quarters perspective).

### Banana republic

Tropico puts an interesting twist on the god-game genre. Rather than having you act as a deity or an industrial tycoon, you're the dictator of a banana republic. No, not the chain of clothing stores, silly — this banana republic is an island in the Caribbean. As Tropico emerges from colonial obscurity after World War II, your puppet regime must stay in power through means — democratic or fascistic — you choose.

What makes Tropico different from so many other simulation games is that, in addition to influencing economics and planning infrastructure, you must manage the political process of your country. Getting your country running is only one problem you'll face as El Presidente — keeping it running is another issue entirely.

In Tropico, you can either use a series of preset scenarios with specific goals (guaranteeing fair elections while maintaining power, or undercutting Cuba's

cigar-export business) or create a custom island of your own — determining its altitude, waterline, distribution of vegetation and minerals, and population.

You can also customize your personality as a ruler, assigning yourself positive traits (hardworking, a man of the people) and negative traits (alcoholic, flatulent). These traits will affect everything from how the average José on the street sees you to how adept you are at foreign policy. As in the case of flatulence, say, a trait can even affect how much your palace guards are paid to protect you.

Despite such omnipotence over your environment, you're no Svengali — you don't directly control what your Tropicans think and do. But you can certainly influence them through your actions (or inaction, as the case may be). Fail to build housing, schools, or clinics for your populace, for example, and you risk the wrath of socialist factions. Place too heavy an emphasis on industrial or commercial development without taking steps to beautify Tropico and reduce pollution, and you'll incite environmentalists to rally against you. Fail to build and maintain a strong military presence, and you may be ousted by a junta. Meanwhile, you must try to balance effective relationships with the outside world, keeping both los yanquis and los comunistas at bay.

Of course as El Presidente, you don't necessarily have to play by the rules. Heck, you can make the rules. If the people demand an election, do you have to listen to them? No! At least, not for a while. And even when you do grant one, you can hire a team of "specialists" to make sure the election results are in your favour. Having trouble with a particular insurgent who threatens the stability of your regime? You can make the insurgent disappear, but you'll have to pay for it (and the respect you lose will be damaging).

If you're serious about making Tropico a better place to live, invest extensively in improvements to the tiny country's infrastructure. You'll need to plant crops that can be sold or turned into lucrative export goods, such as rum and cigars. Exploit local resources, such as mines.

As Tropico's citizens grow more sophisticated, they'll expect more from you. They'll want better pay. They'll want to live in houses and apartment buildings rather



than squalid shacks. You'll need to build them schools, universities, power plants, and better sources of entertainment. You may even want to consider underwriting the development of hotels, spas, and resort locations to bring in tourist dollars.

Of course, you don't have to go the humanitarian route, and for some, this is what makes Tropico so appealing. You can exploit almost every element of Tropico for your personal interest. You can divert money to a private Swiss bank account. You can keep the population under your thumb by imposing martial law and issuing draconian edicts that make it dangerous for the average ciudadano de Tropico to step out of line. In Tropico, it's all up to you.

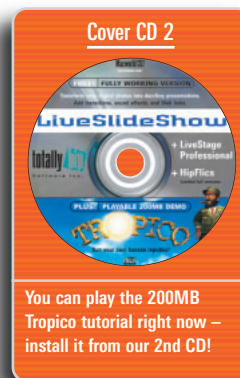
Games as complex as Tropico can be intimidating for first-time players. The many tasks to perform and factors to observe can overwhelm. PopTop strongly recommends that first-time players utilize the built-in tutorial, and I heartily agree. You can play the tutorial for free with the 200MB demo that's on this month's second CD.

Tropico also comes with a well-written manual that thoroughly explains the game's major elements, and provides helpful tables explaining how it works.

Another suggestion for first-time Tropico dictators is to play your first games in Sandbox mode. You create a custom scenario by lowering the political difficulty to virtually nil and providing yourself with unlimited funds. This way, you can familiarize yourself with the mechanics of the game and learn what works and what doesn't. If not for Tropico's Sandbox mode,

### Benevolent dictatorship

In Tropico, you must provide for your people by building farms, schools, industry, and more.



You can play the 200MB Tropico tutorial right now — install it from our 2nd CD!



continues page 74



All subscribers to *Macworld* are entitled to register for **FREE** membership to this fantastic club — all you need to do is go to [www.macworld.co.uk/games](http://www.macworld.co.uk/games), input your email address and subscriber number, and you will automatically be entitled to a 25 per cent discount on many top Mac games.

If you're not currently a *Macworld* subscriber, register your interest by leaving your email address at

[www.macworld.co.uk/games](http://www.macworld.co.uk/games). We'll then send you details of how you can become a fast-track subscriber, with immediate membership to the Gamers' Club.

Alternatively, register your interest at MacExpo (22-24 November, at the Business Design Centre, Islington, London N1). Visit Macworld at Stand 170 to get full information on a variety of great subscription offers, and immediate membership to the Club.

I'd never have found out how lucrative a rum distillery can be or how long it can take one to turn a profit.

Tropico is MacSoft's first game to ship with Mac OS X support – it's been Carbonized, and it worked adequately on my G4/500 running Mac OS X 10.0.4.

Tropico supports hardware-based graphics acceleration, so if you have an

OpenGL-compatible video card, you'll get smoother graphics and richer colours. But if you don't have a video card that can run Tropico in hardware mode, game play isn't diminished with the software renderer.

Tropico has no online-play component, but that's a minor shortcoming. The game is fully absorbing, and it's a lot of fun – even without death matches.

## ¡Viva Tropico!

Every so often, I find a game that I fear I'll have to delete from my hard drive, lest I suffer a major productivity hit. I lost hours playing, oblivious to the outside world as I tended carefully to mi país, mi Tropico. If you're a fan of sim games, you should definitely plan a vacation to Tropico.

Peter Cohen



## Baldur's Gate II: Shadows of Amn

**Publisher:** MacPlay

[www.macplay.com](http://www.macplay.com)

**Distributor:** Softline

01883 745 111

**Pros:** An obsessive title with a rich, engaging story line that teasingly unfolds like a favourite book; beautiful playing environments.

**Cons:** Not a game to dip into.

**Min specs:** 233MHz G3 or faster; 128MB RAM; Mac OS 8.6 or later.

**Price:** £39.99 including VAT.

**Star Rating:** ★★★★★/8.3

It's a world where good and evil sometimes merge to grey. It's the world of Baldur's Gate II, successor to its eponymous prequel. Built to integrate the rules of the hugely successful Advanced Dungeons and Dragons (AD&D) role-playing game universe, the action extends over four CDs – each packed with challenges set in beautifully rendered landscapes.

Baldur's Gate I was a five-CD sword-&-sorcery marathon that took more hours to play than it takes to read *Lord of the Rings*. Gamers explored every rich nook and cranny of the super-evolved gaming universe, digesting every aspect of the compelling storyline that cast them, with a chosen group of NPCs (Non-Player Characters), as the heroes out to save the good folk of the Sword Coast.

You choose your hero's race – human, elf, half-elf, dwarf, gnome, etc. You also get to choose your character's profession – magician, fighter or cleric, thief or ranger, paladin, druid or, for non-human races, a combination of them all. You choose whether you're a good, evil, chaotic, neutral or law-abiding soul? Then the game begins.

It's the smooth game-play, compelling story line and real sense of identification with the characters that made the original Baldur's Gate one of the most successful games around.

The central proposition of Baldur's Gate II is that evil lurks within – players decide whether to indulge themselves in it, or, by abnegation of the dark side, transform themselves into the heroes of this far-flung outpost of fantastic imagination.

It's a world of intrigue. Gate II lets you import characters created in the first title, so players can use familiar characters to explore the action.

Players awake caged in a dark, filthy, unfamiliar place. With a little help, they escape their cage, meet old friends and begin the long, bloody and dangerous struggle to free themselves from their gaol.

It's a tough struggle, but the game designers deliver you the action within a beautifully rendered playing environment.

This version supports an 800-x-600-pixel resolution, offers a full-screen mode, and supports 3D acceleration. An outstanding new feature is its support for multiplayer gaming over the Web – up to six players can explore Amn together in a myth-&-mayhem virtual-friend orgy of digital



### Carry on sword & sorcery

You now get to carry multiple gems in a gem bag, and multiple scrolls in a scrolls bag – this goes some of the way to overcoming the 20-object limit for carried objects in the game.

fantasy. Using the Gameranger service ([www.gameranger.com](http://www.gameranger.com)), Web-savvy Mac gamers can team-up to face challenges, including warring dragons and mages of infernal power.

The game-play is very similar to the precursor. The player interface has been given an overhaul, but the controls are for the most part identical. There's a new race (Half-Orc), and weapon proficiencies are more challenging, with more expertise categories and fighting styles added.

The interactions between non-player characters are relatively amusing – though I tended to find their stock reactions somewhat uninspiring. Baldur's Gate II implements an artificial intelligence in the NPCs, so you can see romance bloom and strife break out within your party – an entirely new dimension to game play. When a character's script reacts to an event, you'll encounter some amusing happenings – sadly not always at the right time.

It's not all fighting and NPC interaction. It's also got a little touch of magic – well, a lot of magic actually; everyone you meet seems able to cast a spell. This game is unrivalled for the length and breadth of spells available for use for all classes.

It's also unrivalled for its choice of enemies – from tiny, relatively soft Kobolds

to vicious battle-hardened wizards, and hostile hobgoblins to frightening, extremely powerful dragons. You will (eventually) defeat them all, but (to my cost) I learned the vital importance of saving the game.

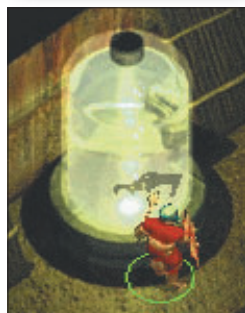
The game's world is huge – a vast continent that you must explore inch by inch. You'll find friends, enemies and pick up clues and quests that will eventually help you make sense of it all. The game's built into chapters, which offers some structure and helps boost a feeling of progress as you play it. You'll need that – an average game of Baldur's Gate took approximately 100 hours, and its successor promises the same.

On the negative side – changing the CDs can be a pain. Now and then it would be nice to take a shortcut to where you need to go, rather than walking across all the terrain.

## Macworld's buying advice

Baldur's gate II is an excellent slice of fantasy action that lovingly recreates the rules of AD&D. It's beautiful to look at with a challenging, complex story line. The title is equally as addictive as its precursor, and not recommended for gamers with social lives or children.

Jonny Evans



### Top Ten UK Games

- 1 Escape from Monkey Island
- 2 Tomb Raider: The Trilogy
- 3 The Sims House Party
- 4 Tropico
- 5 Tony Hawk's Pro Skater 2
- 6 American McGee's Alice
- 7 Summoner
- 8 Tomb Raider Chronicles
- 9 Baldur's Gate Tales of the Sword Coast
- 10 Diablo II Lord of Destruction

List supplied by Softline





# OS X comes off operating table

Mac OS X 10.1 is clean, mean — and on the scene. By Jason Snell

**T**he Mac community has been buzzing about Mac OS X for years. But even Apple admits that all of Mac OS X's incarnations — from last year's Public Beta to this spring's first "final" release — were fit only for those wishing to explore and exploit the new features of its Unix-based operating system. For these early adopters, OS X was a glimpse into the future. The rest of us sat back

and waited for that future to arrive. With Apple's newly released Mac OS X 10.1, the future is finally here. Armed with improved reliability, dramatic speed boosts, several interface improvements, and a clutch of native software, this new release is the first version of Mac OS X that's truly ready for general use.

Continues page 83



The reality is, the first release of Mac OS X really wasn't fully cooked (see "Are You Ready for OS X?", June 2001 *Macworld*). It was slow, lacked software and hardware compatibility, and omitted countless features that users of Mac OS 9 had taken for granted. Mac OS X 10.1 goes a long way toward addressing all of those problems. And while this version still isn't a feature-for-feature match for Mac OS 9, it's no longer a step back. Instead, it combines much of Mac OS 9's functionality with improvements that make upgrading to Mac OS X a serious possibility for even the most dyed-in-the-wool Classic Mac OS enthusiast.

## Speed boost

Apple says that OS X users' most-requested feature wasn't some whizzy new interface addition or networking utility, but pure performance. The fact is, the first version of OS X was slow. Launching applications took longer than in OS 9, and the Finder was especially sluggish. Anyone who tried to resize a Finder window in OS X 10.0 – only to watch as the OS struggled (and usually failed) to keep up with the speed of your mouse – will know what we mean.

But Apple says version 10.1 is "all about performance" – and it shows. The Finder is now quick to respond to clicks, double-clicks, and drags – in many cases, faster than OS 9. Menus drop from the menu bar with a speed far greater than they did in version 10.0. And copying a moderately-sized folder happens in a blink of an eye.

Launching applications is also much faster. With a couple of applications running, a new app launches in a single "bounce" of the program's icon in the Dock. The more programs running, the longer it takes to launch a new one, but application launching is no longer the trial it was in the initial release of Mac OS X.

Drawing 3D graphics on the screen gets a big boost in version 10.1. Apple says that the speed of graphics drawn via OpenGL have increased by 20 per cent in this release. In addition, OS X 10.1 offers native support of the GeForce3 acceleration card.

According to Apple, every dimension of the OS X has been modified to improve performance. Its engineers improved the OS's virtual-memory system, file system, graphics subsystems, and made many small speed improvements. The result is a system that feels eminently usable – a big change from the hair-tearing experience that was using version 10.0 on a G3 system.

## Interface modifications

Giving Mac OS X a speed boost may have been Apple's primary focus, but Mac OS X 10.1 also features a host of interface changes. Some are productivity-boosting new additions, while others are tweaks to some poorly-thought-out features from OS X's first release.

**Quick access** In the original release of Mac OS X, many common system-preferences were hidden in the recesses of the System Preferences application. In 10.1, Apple has brought control over many of these preferences to the forefront, by adding them to a series of icon menus in the right corner of the Mac OS menu bar.

This new method lets you view a portable Mac's battery status, set your system volume, monitor AirPort signal strength and choose AirPort servers, and modify display and networking settings – options that could be controlled with similar ease from Mac OS 9's Control Strip.

Even the clock in the top-right corner is now a drop-down menu – if you pull it down, you can see today's full day, date and time, and have quick access to clock settings and the Date & Time preference panel.

In Mac OS 9 and earlier, third-party software developers could add similar icons to the Mac menu bar, but in Mac OS X menu bar items are limited to those provided by Apple for controlling system preferences. The developers of Carbonized versions of OS 9 software that modified the menu bar – Palm Desktop and Timbuktu Pro, for example –

will be forced to find other ways of providing quick access to their software's features.

While Apple won't let those developers have access to the menu bar, they can use a quick-access alternative: the Dock. Developers can create items that sit in the Dock and provide users with a set of commands when they control-click on that item's icon. For instance, a Mac OS X-savvy version of Palm Desktop could have an icon in the Dock that, when control-clicked, would reveal the current day's appointments and to-dos, as well as shortcuts to launching the full Palm Desktop application or making a quick appointment – just as in the Mac OS 9 menu bar.

**Dock tweaks** The biggest change to the Mac interface in OS X was the addition of the Dock, a strip of icons that displays running applications and minimized windows while also being a launcher for commonly-used items. The OS X 10.1 Dock offers a few twists: You can now move the Dock from its standard position at the bottom of the screen to either the left or the right.

Apple now offers two options for the "minimize" effect used when you move a window into the Dock or remove it from there. In addition to the over-acclaimed Genie Effect, there's now the much faster and less gaudy Scale Effect, which shrinks down the window (without any processor-intensive warping effect) on its way to the Dock.

Another tweak to the Dock actually alters an interface quirk that's been with the Mac since it was first introduced: namely, the mixed metaphor that is the Trash. Logically, when you toss a document into the Trash you expect to throw it away. But does it really make sense, especially for novice users, that a disk can be ejected by dragging it to the trash? Many of us can report stories of terrified new users who were worried that any disk they dragged to the trash would be erased.

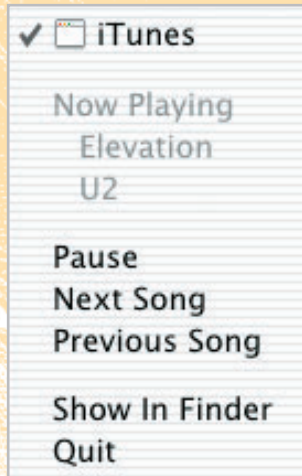
In OS X 10.1, the Trash icon transforms itself based on context. If you drag a document into the Trash, it remains the trash. If you drag a removable disk, it turns into an Eject icon. And if you drag a CD-R that's destined to be burned with OS X's new data CD-burning features (see below), it turns into a Burn icon.

**Preference order** In the first release of Mac OS X, Apple replaced Control Panels with System Preferences application, a multi-paned preferences window with different preference items to click on. For users still trying to adapt to life without Control Panels, the sea of icons within System Preferences was especially confusing.

A few preferences behind those icons have also changed. For example, Desktop Pictures now allows you to select from a row of thumbnails from any chosen folder. If you want to enable or disable any of 10.1's new menu bar icons, this can be done from within the relevant preferences panels. For example, there's a new option in the Displays preference panel called "Show displays in menu bar."

**Improved access** There's one new preference panel in OS X 10.1: Universal Access. Like the Easy Access tool found in the Classic Mac OS, Universal Access serves those who have difficulty using mice or keyboards. From the Keyboard tab, you can turn on

*continues page 84*



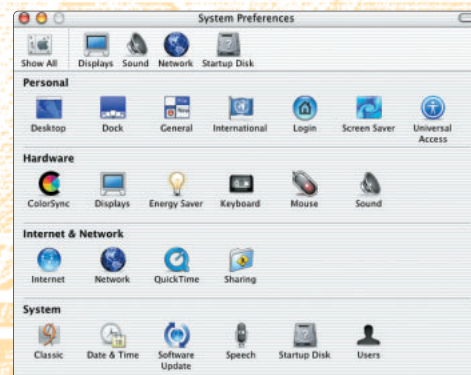
### The right note

*iTunes, which is now a standard part of Mac OS X, offers a contextual menu in the Dock that indicates the title and artist of the currently-playing track, and gives you pause and next/previous track controls straight from the Dock.*

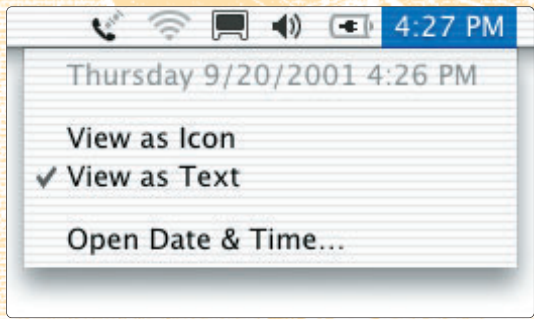


### Preferred choice

*With OS X 10.1, Apple has tried to clean up the System Preferences application, dividing preference icons into four categories: Personal, Hardware, Internet & Network, and System.*







#### Time and a place

Even the clock in the top-right corner is now a drop-down menu in OS X 10.1 – when pulled down, you can see today's full day, date and time, and have quick access to clock settings and the Date & Time preference panel.

the ability to enter in a sequence of modifier keys as a key combination.

From the Mouse tab, you can enable a feature that lets you use the numbers on the keypad to control the cursor. Or you can eliminate the need for a mouse altogether by using the Keyboard preferences panel (or by pressing Ctrl-F1) to turn on Full Keyboard Access. This

feature lets allows control of the menu bar, Dock, windows, toolbars, and palettes entirely via the keyboard.

**Logging in** Unlike Mac OS 9, which offers the Multiple Users feature as an option for shared Macs, in Mac OS X, everybody must log-in as a user. Apple's just managed to hide this fact by having the system automatically create a user when you install OS X, and then automatically log you in when you boot up. This setting can be changed via the Login preference panel.

While single-user Macs never have to see any login options, users of shared Macs aren't so lucky. In OS X 10.0, users had to type in a user name and password in order to log-in to the system. With OS X 10.1, however, Apple has made OS X's login panel as flexible as Mac OS 9's: by default, the login window now displays a list of available users to choose from. You can even set up icons for individual users, a la Multiple Users – just visit the Identity pane of the Users preference panel.

**On-screen controls** In the original version of Mac OS X, hardware controls including the brightness and volume controls on Mac laptops' function keys – didn't work properly. That's changed in 10.1, in which brightness and volume adjustments work just as they did in OS 9. When you change brightness or volume, a semi-transparent icon appears, giving feedback about settings.

**Other choices** This version also gives back users a number of interface choice once offered in the Classic Mac OS. Via an option in the General preferences panel, you can choose whether window scroll bars have double-headed arrows or single arrows at the top and bottom. From the same panel, you can define how many recent documents and applications appear in the Recent Items submenu of the Apple menu – a feature from Mac OS 9's Apple Menu Options control panel. You can also choose at which point-size the system should begin automatic anti-aliasing text.

### OS X gets connected

With Mac OS X, Apple has attempted to make an operating system that's a good cross-platform partner for Windows PCs. From file names to networking, Mac OS X has been made much more PC-friendly on several fronts.

**File names** Apple has changed the way the Mac handles the names of files. Now, the OS X is much more savvy about how Windows-style file-name extensions (like ".doc") are handled, and can even hide those extensions from in the Finder (see "True names, and other dangers").

In addition to those changes, OS X 10.1 can now handle long file-names, such as those found in Windows since the advent of Windows 95. In version 10.0, files could have names as long as 255 characters, but the Finder couldn't display them. With 10.1, the Finder can display file names on two lines when in Icon mode, making it much easier to recognize files with extremely long names.

**Network friendly** OS X 10.1 has got a much better demeanour when it comes to dealing with Windows file-servers, too. Included as part of OS X 10.1 is an SMB (Server Message Block) client, meaning that Macs can now connect to PC servers without the help of an add-on such as Thursby Software's Dave.

A method of sharing files that's growing in popularity,

especially among Web designers, is WebDAV, which uses Web-server technology to create file-sharing connections with less overhead than traditional networking protocols. It's been in products such as Adobe GoLive and Macromedia Dreamweaver for a while, and Mac OS X offered some support for it. But in 10.1 Apple has converted its entire iTools file-sharing service to the new protocol. When you connect to iTools in OS X 10.1, you're using WebDAV.

Because WebDAV is based on Web technology, it works like a Web server: connections are made only when data needs to be passed back and forth. That's in contrast to old-style networking protocols, that required a constantly open connection, and an ongoing dialogue between the server and the client. The result should be more-reliable network connections and no more "server has disconnected" warnings following a period of disuse. Another bonus will be compatibility with a range of servers, especially Web servers commonly accessed by Web-site designers.

New in this version of OS X is support for an old standard: AppleTalk connections to Apple Filing Protocol servers. If you've got an existing Apple file-server running on an AppleTalk network, OS X 10.1 is as compatible as Mac OS 9 has always been. Also, 10.1's printing support is improved, bringing it up to parity with the features of the Classic's LaserWriter 8, and adding automatic support for various printers, including non-Apple laser printers.

Finally, AppleScript support is dramatically improved in OS X 10.1, especially when it comes to creating scripts that take advantage of networking. Scripts can now control applications on remote Macs via a network – a feature that OS 9 has, but OS X lacked – and can take advantage of the SOAP (Simple Object Access Protocol) to easily access data stored on remote XML-based database servers.

### A better digital hub

In January, Steve Jobs first talked of his vision of the Mac as a "digital hub" – as the nerve centre of a collection of digital devices, from cameras to hand-held computers to consumer audio and video devices. Not surprisingly, Mac OS X 10.1 offers several new and improved features that tie in with the Apple CEO's strategy.

**DVD arrives** One of the glaring omissions in the first release of Mac OS X was support for DVD video playback. But 10.1 includes the DVD Player 3.0 application, and the result is a DVD viewing experience that's as good, if not better, than in Mac OS 9. A preference decides how the player behaves when you insert a disc.

Playing DVDs shows off the power and multithreaded nature of Mac OS X. When we played a movie on a Power Mac G4 800MHz DP, we were able to drag the movie window around the screen freely, without any apparent dropping of frames. On a 500MHz iBook, that didn't work – but we were able to do work in other applications while the movie played in a background window without any hiccups or hesitation in either the DVD player or the applications we were using. OS X 10.1 doesn't include software for encoding and burning DVD video discs, but Apple's new iDVD 2 – which should be available by November – requires 10.1 to run. That means users of SuperDrive-equipped Power Macs will be able to use iDVD 2.0 and OS X 10.1 to burn DVD video discs in a flash.

**Data burning** Although OS X 10.0 didn't support the burning of CD media, it allowed users to burn audio CDs via iTunes. However, burning data CDs was still out of the question. 10.1 changes that equation by adding built-in support for burning data-discs – either CD-Rs or, on SuperDrive models, 4.7GB DVD-R discs. When you insert a disc, a dialog box appears, asking you to choose the format for the disc. Then an icon appears on the desktop, representing the new disc. You can copy files to the disc, and even make modifications to files on the disc – OS X actually creates a temporary directory elsewhere that contains the contents of your disc, and allows for limitless



#### Looks familiar

OS X 10.1's DVD player has a new remote-control palette that closely approximates a consumer DVD player's remote, including arrow buttons.

changes until you're ready to burn. When choosing "Burn" from the Finder toolbar, or dragging the disc to the Trash – which automatically transforms into a Burn icon – the data in the temporary directory is burned to the disc. Voila – you've burned a disc from the Finder.

**Camera-friendly** Mac OS X's support for digital cameras is better than ever. 10.1's Image Capture application supports the Picture Transfer Protocol – an emerging standard for communicating between camera and computer. Plug-in a camera, and pictures will be automatically transferred to a destination of your choice.

### The last word

Mac OS X can't succeed on its own. As good as Classic mode is at running non-native software, people want to run OS X apps on OS X. For OS X to succeed, the core software must be there. The good news is, the release of version 10.1 is a watershed event for OS X software development. The system has been so improved that several developers are making 10.1 a requirement for their software – the biggest example being Microsoft Office v. X.

With OS X 10.1, Apple's new operating system has left the world of theory and guesswork behind. With its host of performance and usability improvements – and thanks to more native software arriving by the day – OS X is about to move to centre stage. After years of waiting, version 10.1 finally makes Mac OS X ready for prime time. **MW**

#### Major update to Apple's next-generation operating system

### Mac OS X 10.1

**Publisher:** Apple 0800 039 1010 [www.apple.com/uk](http://www.apple.com/uk)

**Pros:** Faster, cleaner interface; adds a ton of features missing in the initial release.

**Cons:** Not all developers have caught up yet.

**Min specs:** Any G3 or G4, except the original G3 PowerBook; 128MB RAM; 3D Acceleration (ATI Rage 128 or later).

**Price:** £99 including VAT; upgrade CD, £14.95.

**Star Rating:** ★★★★★/8.8

Having used Mac OS X since its introduction, I'm blasé about its jerky window resizing, its CD-RW incompatibility, its lack of DVD playback, and its average printing performance. OS X 10.1 has reminded me how great the Mac can be.

Window resizing is now zippy, CD-R burns are flawless, and DVD playback is perfect. While the whole feel is zippier, the speed increase is most noticeable in the interface. If you're looking for speed boosts in data processing – working with filters, or compression, for example – then you'll be disappointed. In many cases, applications run slower in OS X than in OS 9. However, as developers gain more experience of 10.1, this should improve.

What makes 10.1 a must-have upgrade is the applications it's attracting to the OS. Software houses are queueing up to ship major titles to the OS. Adobe has already shipped Illustrator 10 and InDesign 2.0 (see News, page 28). This is the upgrade that should make those cautious Mac OS 9 users take that leap of faith. Come on in. The water's fine. **MW**

David Fanning

### True names, and other dangers

Perhaps the biggest change to the traditional Mac way of doing things in Mac OS X is how the OS handles file names. With OS X 10.1, Apple has begun to encourage file compatibility between Macs and PCs running Windows by adopting – if not quite embracing – the three-letter filename extension that's been attached to PC files since the dawn of DOS.

#### Brave New world

Of course, exchanging emails with Wintel-using friends, or if working in an office that's got a mixed network of Macs and PCs, you'll already receive files with names such as "Report.doc". Mac OS X 10.1 tries to shield users from the ugly file-name extensions of the Windows world, while at the same time encouraging Macintosh users to create files in the same way that Windows users do. Confusing? It sure is – and it's got the potential for some interface confusion that Macintosh users have never seen before. But before you judge Apple for this feature, here's how it works:

By default, the Mac OS X 10.1 Finder hides file extensions from users. That means that while you might look in a folder and see a Microsoft Word document called "letter", in reality the filename may be "letter.doc". Apple has also made it possible for developers to append file extensions to filenames, so if you choose to save a document as "report", it may say "report" in the Finder, but the real name on the hard drive is "report.rtf".

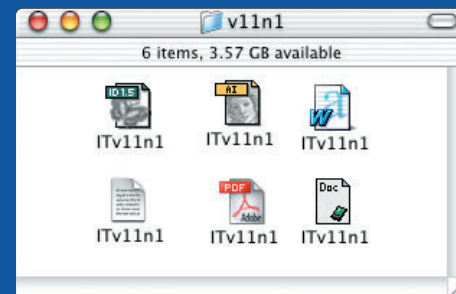
Apple's rationale is that, while customers have no interest in seeing three-letter file extensions, they're still necessary for complete compatibility with Windows PCs. This is because, unlike Macs, PCs rely on those extensions to tell what type a file is, and which application it should use to open it. Microsoft, by the way, has hidden those extensions from its users since the days of Windows 95. It's a good idea, but many Macintosh users will find it unsettling that, for the first time, what you see in the Finder isn't what's on your hard drive. Fortunately, Apple has provided an option in Finder Preferences called "Always show file extensions". This ensures that what you see is what you get. There is also the option to show or hide extensions on individual files by choosing Show Info (⌘-I) from the File menu and selecting "Hide extension" from the Name & Extension panel.

#### What type am I?

In addition, OS X 10.1 is much more savvy about using filename extensions than the Classic Mac OS ever was, even with the help of the PC Exchange control panel. Files sent from Wintel machines rather than Macs will often lack the hidden Mac "type" and "creator" codes – the longtime Mac-equivalent to the PC three-letter extension – needed for Macs to recognize file-kinds and what application should be used to open them. The OS X 10.1 Finder, however, can determine a file's type based on its name, and treat it just as it would a native Mac document. The end result: the Excel file "spreadsheet.xls" you get from a PC user will show up in the Finder as an Excel file, icon and all.

For file extensions that could be owned by more than one application – let's say text files, which could be opened by TextEdit or BBEdit or even Microsoft Word – OS X users can use the Finder to define what program takes precedence. Choose Show Info for a document of that type, select Open with application, and pick the application that should own it. Pressing the Change All button will make sure that every file that has that extension will be opened by the application you chose.

This new system makes it easier for regular Mac users to take control of files. A power user might have been able to tell you the creator code for BBEdit – and what shareware app he or she recommended you use to modify your SimpleText file so it would open in BBEdit. But now, any user can change the program that owns a file via the Show Info command. **MW**



#### Name game

Mac OS X 10.1 introduces a strange quirk to the Finder: with multiple files with the same name but different extensions, you may end up with a folder full of files that appear to have the same name.





# Smart Office

With Microsoft Office v.X, Mac OS X has its first killer app.

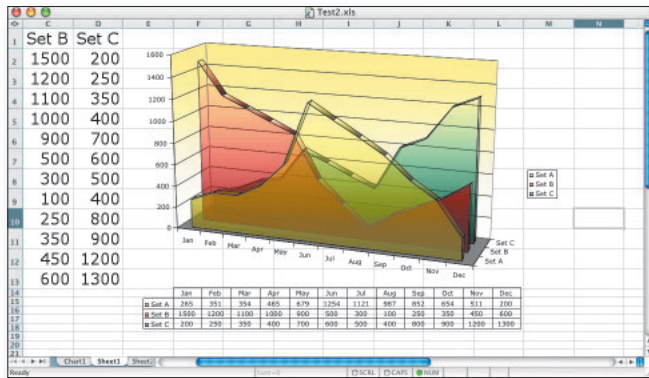
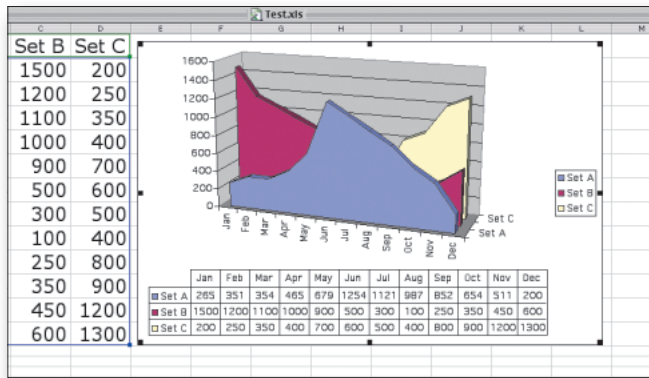
By Tom Negrino

**E**xcept for a few risk-takers, most of us don't welcome major change. We need convincing evidence that we'll benefit by leaving our comfortable ruts. This is especially true when the change involves something we use everyday, something that our livelihoods depend on—such as our operating systems and software programs. With its release of Office v.X, Microsoft may have given Mac users a reason to leave the

rut of OS 9. Thousands of us rely on Word, Excel, Entourage or PowerPoint, and now those applications run natively on Mac OS X. In fact, you can't get the new versions any other way. Unlike some programs that work in both Mac OS 9 and OS X, this new version of Office runs only in the latest version, OS X 10.1 (see page 80). In a very real sense, the arrival of Office v.X legitimizes OS X.

continues page 88 





#### Transparently obvious

Mac OS X's Quartz graphics layer allowed Microsoft to engineer Office X to display graphics that previously would have had to have been created in a program such as Adobe Photoshop. Nowhere is this seen better than in Excel. On the left is an Excel graph produced in Excel 2001. On the right, the same graph as produced in Excel X — note the transparency that lets you see one set of information directly through another. The smooth, anti-aliased text is another real benefit of Mac OS X.

**Two beta Xs** In preparing this first look, we used a beta copy of Office v.X on a pre-release version of Mac OS X 10.1. Since both products were weeks from completion, there was no way to make a solid performance judgment. But with that caveat, we can still report that the responsive feel of the Office applications was impressive; the programs launched quickly, and most operations were on a par with the same action in Office 2001 under Mac OS 9.1.

#### Different, yet familiar

With every upgrade, the first question most people ask is “What’s new?” For Office v.X, there are two seemingly contradictory answers: “Everything,” and “Not that much.” Yet both answers are correct.

**Mountains of code** To run natively under Mac OS X, developers must rewrite large portions of their applications, especially if they want to take full advantage of the Aqua interface. It can take months to port one application using Apple’s Carbon application programming interfaces (APIs); all the underlying code that makes the program work needs revising, and every dialog box, toolbar, and window needs tweaking to look right under Aqua.

Microsoft developers had to port 25 million lines of Office code to Mac OS X. Microsoft Office v.X consists of the four main applications, plus six ancillary programs (Clip Gallery, Database Daemon, Equations Editor, Graph, Office Notifications, and Organization Chart), plus dozens of other files, such as shared libraries. Rewriting all that code required a mammoth programming effort that’s lasted more than a year — for more on Microsoft’s busy Macintosh Business Unit, see the sidebar “Inside Microsoft’s Macintosh Business Unit”. Much of that struggle went into Carbonization, rather than into new features. So although practically all of Office has changed under the hood, what you’ll mostly see is the new Aqua paint job.

That’s not to say that there haven’t been any new features added to Office. Entourage X leads the pack with a significant facelift, and Word X has a few nice additions. Microsoft gave Excel X and PowerPoint X comparatively short shrift in this revision.

#### All-over aquafication

All of the programs have been revised to follow the Aqua user-interface guidelines, which adds a beautiful new look but may cause experienced users some confusion and re-adjustment. For example, Word’s Replace command has always been ⌘-H, but Aqua reserves that keystroke for hiding the current application. So Word v.X now uses ⌘-Shift-H for Replace.

**A change of sheets** Office now uses Aqua’s ‘sheets’ for saving files; sheets are special dialog boxes that slide down from the title bar of a document window (see “Fitted sheet”). With sheets, you never lose track of which window a dialog applies to. And because sheets are attached to the document, rather than the application, you’re freed from an annoying Mac OS 9 trait: being stuck in an application

by a dialog box that must be dismissed before you can continue. If you’re in PowerPoint when your Entourage calendar demands your attention, for example, you can take care of it right away.

**Quartz transparency** Taking advantage of yet-more new Mac OS X technology, Office v.X now uses the Quartz graphics layer for its drawing tools, allowing anti-aliased and transparent graphic objects (see “Transparently obvious”). Transparency may not sound like much, but it can make a big difference in your documents. For instance, transparent elements in PowerPoint, Word, and Excel charts can help you present your data more clearly.

Even though Quartz-driven transparency is a Mac OS X-only feature for Office, documents with transparent objects are still readable in older Mac and Windows versions of Office. These applications display the transparent parts of the graphics as dithered patterns, and you can’t edit the transparency level.

**Easy on the eyes** A large part of updating Office’s interface required creating 700 new icons and changing 800 dialog boxes. Toolbars and their icons are bigger, more colourful and more detailed, making them easier to understand — and nicer to look at, too.

**Scroll and click** Thanks to the built-in support in Mac OS X 10.1, the Office v.X applications are able to use some features in third-party mice and keyboards. Mice with scroll wheels and two buttons work; clicking the right button is the same as Control-clicking, giving you easy access to contextual menus.

#### Entourage X

From a user-interface standpoint, Entourage 2001, Office 2001’s big addition, wasn’t much more than a buffed-up Outlook Express 5. Personal information manager features — the enhanced address book, calendar, tasks, and notes — were clearly shoehorned into Outlook Express’ aged interface. No longer; Microsoft sent Entourage X to its interface mechanics for an extensive overhaul (see “Entourage’s new look”).

**Easier to switch** Besides the Aqua look, you’ll find big buttons that switch between Email, Address Book, Calendar, Notes, and Tasks, plus the vastly improved Custom Views (more on that later). For the keyboard oriented, each task area has a keyboard shortcut for quick switching.

**At-a-glance improvements** In the calendar, events spanning multiple days now show as banners in the calendar, rather than as a string of repeated events (see “Calendar evolution”). Colour-coded days indicate workdays and weekends, and you can display a task list next to the calendar. New buttons in the toolbar toggle between Month, Week, and Day views.

**Address additions** When you address a new email message, a list of recently used addresses pops up, in addition to the usual address lookup as you type. These recently used addresses appear regardless of whether they’re in your Address Book, and the most-often used

names are prioritized, migrating to the top of the list. If you accumulate too many names, you can clear the list, or even turn it off altogether.

**Email movies** You can now copy formatted text, pictures, and even QuickTime movies, from other applications and paste them into an email message without losing the formatting. As one example, an estate agent could drag a Word brochure for a property, including JPEG-formatted photos, into the body of an email message for a prospective buyer, rather than enclosing the brochure as an attachment. Because many people, especially AOL and Windows users, have difficulty dealing with attachments, this addition could smooth the communication process.

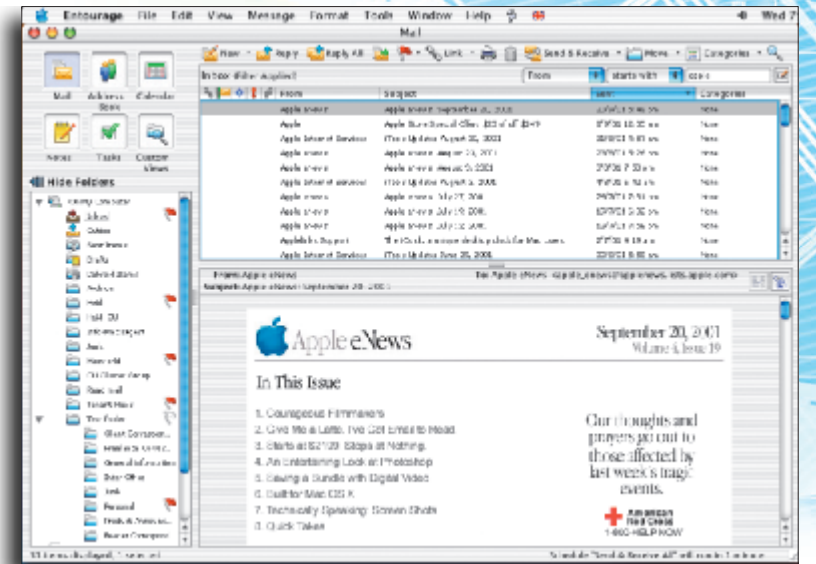
**Manage passwords** New support for the Mac OS X Keychain means that you can let the system manage the passwords for all of your mail accounts, without storing them in Entourage (and therefore leaving your email vulnerable to anyone who wanders by your desk).

**Custom views** If you’re organizing your life in Entourage, you need tools that help you see just the information that’s relevant. Each of the task areas now have dedicated Custom Views that let you show selected data, eg, Mail Received Today, or Events Due in the Next Week. You can create and save your own Custom Views, slicing and dicing your data in almost unlimited ways. For example, if you assign a common category to all of the items associated with a particular project, a Custom View can show you everything about that project, including contacts, email, appointments, tasks, notes, and all of the files you create to support the project.

**New way to notify** Because Mac OS X doesn’t allow extensions, the new Office Notifications application takes over the job of popping up and alerting users when Entourage reminders come due (see “Tell me about it”). Mike Connolly, Microsoft’s group program manager, notes that Entourage v.X’s database is always running in the background, even when no Office applications are running. “And unlike Office 2001,” Connolly says, “there’s no performance hit on the active application, even when the database is doing intensive operations, like searching through mail messages.”

(Connolly heads up the program management team for the Microsoft Macintosh Business Unit, where the group manages the design usability and user interface projects.)

Besides Entourage events, Office Notifications alerts you that a friend is available for instant messaging



(if you’re online and have the new MSN Messenger 2.1 for Mac OS X installed). MSN Messenger works with Office Notifications to display .NET Alerts, a new service that lets live information from the MSN Web site, such as stock price changes, pop up on your desktop.

**Room for improvement** Entourage X’s personal information manager features have a way to go before they can go head-to-head with PowerOn Software’s Now Up-to-Date and Contact (see Macworld October 2001’s CD for a free, fully working version of Now Up-to-Date and Contact 3.8.3, upgradeable to the latest version for just £39). Entourage is still only single-user, so you can’t share your calendar with co-workers.

You can assign priorities to tasks, but not to events. And when you complete tasks, they disappear from the Tasks Pane next to the calendar, rather than being shown with strikethrough, as in the Tasks area. Most annoyingly, because Palm hasn’t completed creating native Mac OS X conduits, you can’t synchronize Entourage to your Palm handheld. Microsoft promises to make a free update available for downloading when Palm gets its act together.

#### Entourage’s new look

Entourage X now sports six navigation buttons that let you switch between the program’s email and PIM functions.

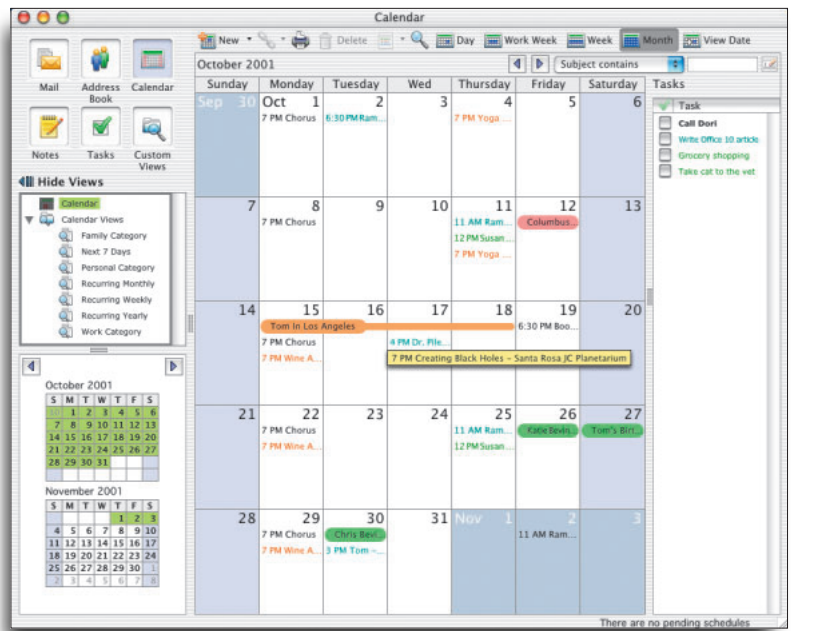
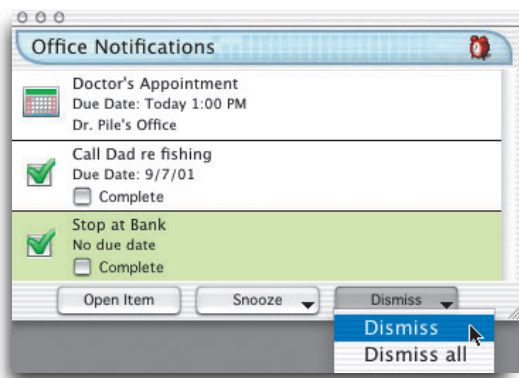
#### Calendar evolution

No part of Entourage X has changed more than the Calendar view. Besides the central view (which can switch between Daily, Weekly, or Monthly panes), the Tasks pane and the thumbnail months have been rearranged for better visibility.

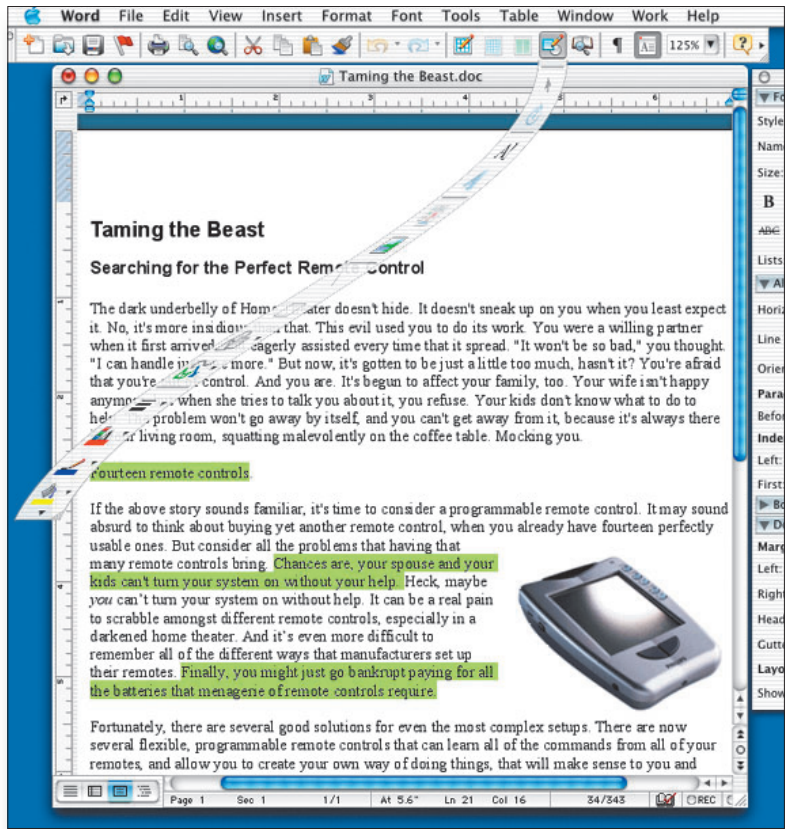
continues page 90

#### Tell me about it

The new Office Notifications shows you one or more alerts from Entourage in one well-behaved window — no more modal dialog boxes in the Mac OS X era.





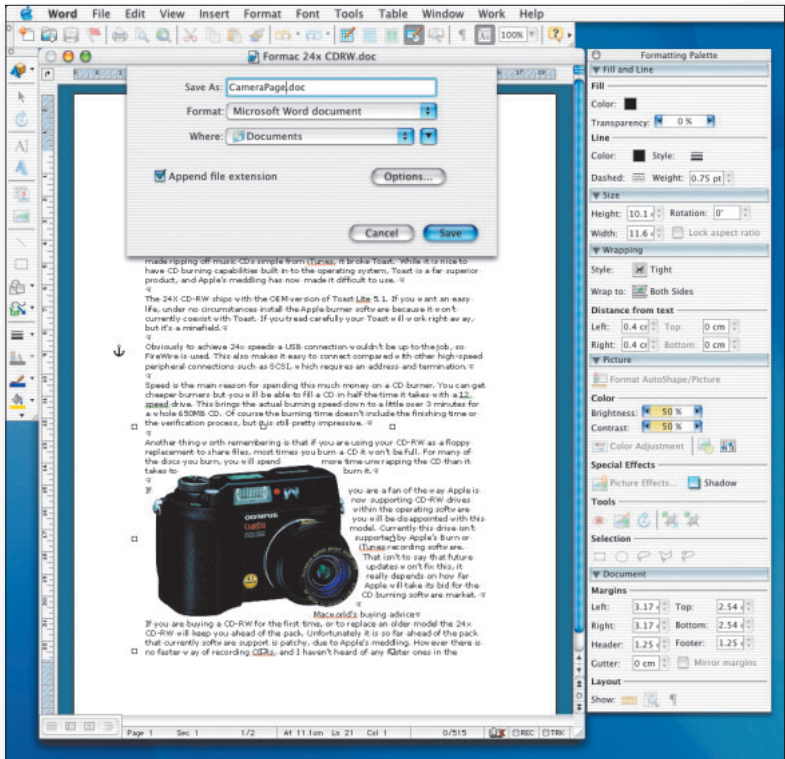


#### Across words

Word's non-contiguous text selection is in action here, as is a special animation in the Drawing toolbar (also available in the Formatting Palette), which looks much like the Dock's Genie effect.

#### Fitted sheets

Mac OS X does away with unnecessary dialog boxes that used to clutter up the old Mac desktop. The best way it does this is with 'sheets', which unfurl from a document's title bar rather than appearing as separate boxes in the centre of the screen.



## Word X

The most useful new feature in Word is noncontiguous text selection, which allows you to select one or more separate blocks of text in one operation: Select the first block of text, hold down the Command key, then select the next block (see "Across words"). Word applies your next operation to all of the selected text. Let's say you're formatting a report with headings at the start of each section. You can scroll through the document, selecting each heading as you go, then apply a style with one click.

Noncontiguous selection also allows you to pick and choose parts of your document for tasks such as spell checking; you can spell-check the body of a report without slogging laboriously through that table of names and addresses in the middle of the report.

**Clear the decks** One long-overdue new feature is the ability to clear all formatting of a selection, which resets the selection to the default style for that paragraph.

## Excel X

Although there aren't a lot of new features in Excel, the program feels surprisingly fresh, again thanks to Quartz and Aqua. Text and numbers in cells seem crisp and easier to read, and improved shading in the row and column bars make it more obvious which cell is selected. When you edit a cell, it appears to lift a bit above the rest of the worksheet – a drop shadow that makes it abundantly clear which cell you're working on. (See "Excel gets obvious.")

**Custom shortcuts** For hardcore users, the most useful addition to Excel X will be customizable keyboard shortcuts. Just as in Word, you can add, reassign, or remove keyboard shortcuts. If you've been using Excel for several versions, this will be especially welcome, since Office 2001 re-mapped many long-standing shortcuts, such as  $\text{⌘-B}$  to blank out a cell's contents. Excel's keyboard customization allows long-time users to restore those old, familiar key shortcuts.

**Transparent charts** When you generate charts in Excel, you can now set the transparency of individual bars, columns, or other chart components. For example, in 3D charts, you can make the front-most elements translucent, so you can still see information in the rest of the chart. And because of Quartz anti-aliasing, jagged chart lines are a thing of the past.

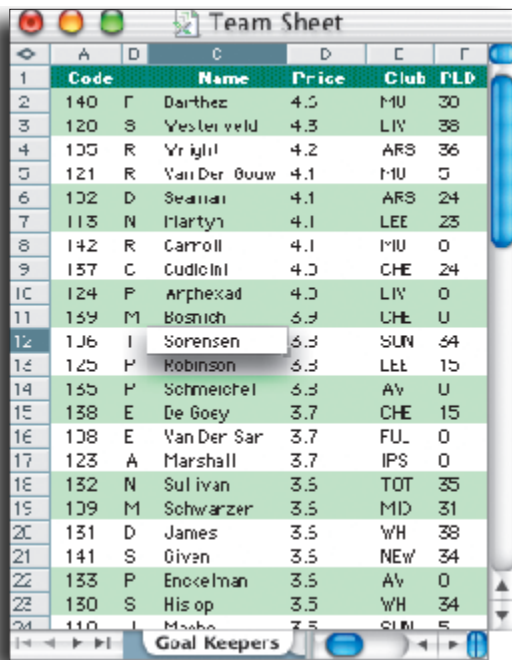
**Data recovery** Excel now has an AutoRecover feature that automatically saves a snapshot of your worksheets at timed intervals you set. If Excel crashes and you haven't saved for a while, the AutoRecover data allows all or part of your unsaved work to return when you reopen your document. Then make sure to save the document again, and fast!

## PowerPoint X

Like the rest of Office, PowerPoint lets you set the transparency of drawing objects or pictures, and it uses Quartz's text manipulation and layout abilities to anti-alias text on your slides, making for clearer presentations.

**The whole package** New to PowerPoint are PowerPoint Packages. A Package gathers your presentation and any linked files into one folder, which you can then burn to a CD or email to a colleague.

**Comprehensive QuickTime** PowerPoint 2001 introduced the ability to turn presentations into QuickTime movies, but the movies were more limited than the original presentation, lacking interactive features such as hyperlinks and slide transitions. PowerPoint v.X's movies now look and act more like the presentation running inside PowerPoint, so presentations that you save as QuickTime movies and put on the Web or distribute on CD will display all of your presenting genius. You'll also find support for the TV-style transition effects built into QuickTime, such as cross fades and circle wipes, in addition to PowerPoint's slide transitions set.



#### Excel gets obvious

Excel uses Aqua graphics to improve how it shows you which cell is active, with better row and column bar shading, and by appearing to lift the cell being edited above the worksheet.

## What does it need, what will it cost?

A full installation of Office v.X will require about 200MB of disk space. Thanks to Mac OS X's intelligent memory management, there's no need to muck about with application memory settings, as was sometimes the case with Office 2001; as long as you have at least 128MB of RAM, Office v.X should run fine. You will need to run Mac OS X 10.1 – Office v.X requires it. OS X 10.1 costs £99 (including VAT). If you're already running OS X, an upgrade Dd costs £14.95 (shipping and handling) from Apple.

**Cost of admission** Office v.X will sell for £429 (inc. VAT; £365 ex. VAT) when it is available in November. The upgrade price is £229 (£195 ex. VAT).

From one standpoint these upgrades aren't cheap, considering the relative paucity of new features. You'll need to balance that against the many benefits of running native Mac OS X applications (see page 80).

**OS 9 support** The Office 2001 package will remain available for users of Mac OS 9 and earlier, but it has been placed into "maintenance mode." Updates, if any, will be bug fixes and changes needed to maintain compatibility with possible future Classic Mac OS releases. But any significant Office development will occur on OS X.

## The last word

The initial release of Mac OS X was embraced by early adopters and the curious – but for most of us, it didn't improve the way we work over Mac OS 9 – quite the opposite, in fact.

But the one-two productivity punch of Mac OS X 10.1 and Office v.X can't be ignored, nor can Microsoft's commitment to OS X. If you use Office and you've been sitting on the fence wondering whether you should move to Mac OS X, Office v.X is a good reason to make the leap and hit the ground running.

MW

Contributing editor Tom Negrino is the author of *Microsoft Office v.X for Macs for Dummies* (Hungry Minds, 2002), and *Microsoft Office v.X Inside Out* (Microsoft Press, 2002).

For more on Mac OS X 10.1, see pages 80-85.

## Inside Microsoft's Macintosh Business Unit

Microsoft: It's a word that you can say to 20 different Mac users and get as many different responses. Recently, I had the opportunity to visit the staff at Microsoft's Mac Business Unit (MacBU) in Redmond, near Seattle. What I found was a group of people dedicated to Apple and to developing the best Mac products in the market.

Despite what many people may think, the group at the MacBU are not Windows users forced to grudgingly write code for the Mac. In fact, the programmers at the unit don't write any Windows code at all. Technologies at Microsoft are shared between the Windows and Mac product groups, but that makes sense – we all benefit from shared technology.

Until 1997, when the MacBU was formed, approximately 80 per cent of all code was shared between the Mac and Windows programming teams. When the teams reached the 80 per cent mark, specialized development groups would finish the code for their selected platform.

This development strategy lead to the release of products like Office 4.x. The people at the MacBU share the feelings of many Mac users who say this was not a good product.

"Office 4.2 was a bad product for our customers – it almost killed Microsoft on the Mac," Kevin Browne, the general manager and a founding member of the Macintosh Business Unit, told me in an interview on the Microsoft campus. "We're still recovering in many ways; recovering our reputation, recovering the trust level customers have with us."

But Browne thinks Microsoft has shown its commitment to Apple and Mac users over the years. After re-evaluating the failure of Office 4.x, Microsoft decided to spin-off the Mac group into its own business. Since the formation of the MacBU the group has released Office 98, Office 2001, Internet Explorer 5, Outlook Express 5 and Outlook for Mac. The release of Microsoft Office 2001 for Mac brought with it many improvements for Macintosh users, including many Mac-first features and greater compatibility with its Windows counterpart.

Microsoft was also one of the first companies to pledge support for OS X, telling customers that Office would be coming to the new operating system. But it isn't stopping there – the MacBU is continually looking at new technologies and features it can offer Macintosh users.

"The original mission of the MacBU was to bring a version of Office to the Mac. Then we merged the Internet Explorer and Outlook Express to the business unit. There was a time when Microsoft would have a technology that I couldn't even hope to offer my customers on the Mac. Now, I look at the MacBU as having a mission to look at everything that Microsoft is building. We need to make sure we understand what the Mac customer wants, what services they want, and then be able to provide those to them."

The release of Office v.X will give Mac OS X validation in the business world; there is no doubt about that. If business owners and educational institutions are going to be cross-platform, they need assurances that files can be accessed from both platforms – Microsoft brings that to the table for Apple, much the same way Adobe Photoshop will bring validation for OS X to the graphics market.

"What people should know is, I have 160 full time people – they are Mac fans and they build Mac apps," Browne said.

**Jim Dalrymple**



# Lens flair

High-resolution digital cameras tested and rated.

By David Fanning



If quality images suitable for Web use is what you want from your digital camera, then a good 1-megapixel model will suffice. However, if you wish to use your camera in conjunction with a photo-quality printer to create A4-size images striking enough to hang above the fireplace, then the camera you need should be in the 3-megapixel bracket. (Megapixel means a million pixels. The more pixels an image has, the larger it can be at high quality.)

There exists a bewildering range of cameras, offering a profusion of diverse technologies and resolutions – making it difficult for novices to navigate both the cameras' specifications and the performance claims of manufacturers. Here, we strive to strip matters down to the key issues and features.

## Technologies

One camera on test – the Canon EOS D30 – employs a new way to capture images. The D30 uses a CMOS chip (Complimentary Metal Oxide Semiconductor) rather than a CCD (Charge Couple Device).

On the plus side, CMOS offers low power-useage, yet high-level signal-processing capabilities – thanks to the size of the chip. Unlike tiny CCDs, the CMOS chip in the EOS D30 is a chunky 23-x-15.5mm. This means pixels are bigger, so better at collecting light. The more light collected, the better images will be. Also, because the area collecting data is bigger, the image can be focussed on a larger area. This means that CMOS-based models can use SLR lenses; you can interchange lenses designed for the Canon range of film cameras with the EOS-D30. CCD models, though, rely on specially

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#### Epson PhotoPC 3100z

The PhotoPC 3100z is Epson's only digital camera. It's easy to use and has some imaginative features, such as a panoramic stitching tool. This allows you to take seamless panorama shots, by displaying a ghost image with which to line-up the next shot. The 3100z also benefits from Epson being a top photo-printer manufacturer, as it offers features that "co-operate" with its printers. For example, the 3100z has the same colour profiles as Epson's printers, helping to preserve colour accuracy between camera and printer. The 3100z also offers voice and video functions. Features for higher-end use include a hot shoe for external flash, and an adaptor for lenses.



#### FujiFilm 6800Zoom

This camera's Super CCD makes for excellent-quality images. It's lighter and cheaper than the 6900Zoom (right) but offers less zoom. The 6800 offers an easy-to-use interface. It even says hello when you start it up. It has the usual LCD viewfinder, but also a smaller navigation LCD screen in the middle of the controls. This helps the user get the most from the surrounding controls when setting up for the shot. It allows for buttons to do different things in different modes – and is controllable with your thumb. The 6800Zoom is a neat and well-designed package. Even though the 6800Zoom is designed by Porche, it's not the prettiest on test.



#### FujiFilm 6900Zoom

Like the 6800Zoom, the 6900Zoom shares the same Super CCD – but that's about it. The 6900 has many more professional features, including a hot shoe for external flash, different exposure modes, and a 6x optical zoom lens. The images produced by the Fujifilm cameras are of excellent quality. The Super CCD technology offers a possible 6-megapixel output from the 3.3-megapixel CCD. FujiFilm claims that this is achieved by the unique octagonal-pixel shape on its CCDs, and it is unlike conventional interpolation seen in most other cameras. FujiFilm also claims its interpolation is better than regular interpolation – however, it's still merely interpolation.



#### Kodak EasyShare DX3900 Zoom

Of all the cameras on test, the EasyShare DX3900 is the most consumer-friendly. It features a special camera dock that's used to transfer images to a computer. Placing the camera in the dock and pressing a button is all you have to do to retrieve images. Having a dock means you don't need to balance the camera while transferring images. Why don't more camera manufacturers use a similar system? Hooking cameras to computers via FireWire or USB can cause a tangle. The EasyShare is a basic camera that's capable of producing high-quality images. It lacks professional-level features, but, in essence, this is its point: Kodak's idea is to keep things simple.



#### Nikon Coolpix 995

The Coolpix 995 is the latest in a long line of cameras from Nikon that uses the twist-in-the-middle design. I've never been a fan of this, because, far from adding to the camera's capabilities, it feels like weirdness for weirdness's sake. However, the quality of the camera is undeniable. Its Nikkor glass lens has much to do with the CoolPix's image quality. Nikon is a noted manufacturer of cameras and lenses, and that experience gives the company a head start on other manufacturers. The CoolPix offers full shutter and aperture control, which gives it a professional feel. The Auto Focus feature is also capable in conditions that cause problems for other cameras, such as low light.



#### Olympus Camedia C-4040Zoom

This is a compact model whose traditional looks mask a number of high-tech innovations. One is a noise-reduction feature, which means every picture taken is followed by a second reference-image that is captured with the shutter closed. The noise of the second picture is used to map and remove the noise from the first. It's dead clever and works very well. However, the Camedia's non-rechargeable lithium ion cells may not suit everybody. They cost £10 per cell, and, although they last for months rather than hours, the expense mounts up over time. We liked the convenience the batteries offer, but recognize that this won't be to everyone's taste.

|                           |                       |
|---------------------------|-----------------------|
| Model                     | PhotoPC 3100z         |
| Company URL               | www.epson.co.uk       |
| Aperture range            | f/2.0-2.5             |
| CCD: claimed/active       | 3.3/3.14 (megapixels) |
| CCD resolution (pixels)   | 2,048-x-1,536         |
| Optical zoom/digital zoom | 3x/2x                 |
| Storage-media type        | CompactFlash          |
| Flash                     | Built-in and hot shoe |
| Lens                      | Epson                 |
| Connectivity              | USB                   |
| Bundled storage           | 16MB                  |
| Power                     | AA alkaline, or Ni-MH |
| Weight (grams)            | 368                   |
| Viewfinder                | 1.8-inch TFT          |
| Price (inc. VAT)          | £649                  |
| Contact                   | 0800 220 546          |

|             |           |
|-------------|-----------|
| Value       | ■■■■■■■ 8 |
| Quality     | ■■■■■■■ 8 |
| Ease of use | ■■■■■■■ 8 |

Star Rating ★★★★★/8.6

|                         |                       |
|-------------------------|-----------------------|
| Model                   | 6800Zoom              |
| Company URL             | www.fujifilm.co.uk    |
| Aperture range          | f/2.8-7               |
| CCD: claimed/active     | 3.3/3.14 (megapixels) |
| CCD resolution (pixels) | 2,048-x-1,536         |
| Optical zoom            | 3x                    |
| Storage-media type      | SmartMedia            |
| Flash                   | Built-in              |
| Lens                    | Super EBC Fujinon     |
| Connectivity            | USB                   |
| Bundled storage         | 16MB                  |
| Power                   | Rechargeable          |
| Weight (grams)          | 265                   |
| Viewfinder              | 2-inch TFT            |
| Price (inc. VAT)        | £699                  |
| Contact                 | 020 7586 1477         |

|             |           |
|-------------|-----------|
| Value       | ■■■■■■■ 8 |
| Quality     | ■■■■■■■ 8 |
| Ease of use | ■■■■■■■ 9 |

Star Rating ★★★★★/8.7

|                         |                       |
|-------------------------|-----------------------|
| Model                   | 6900Zoom              |
| Company URL             | www.fujifilm.co.uk    |
| Aperture range          | f/2.8-11              |
| CCD: claimed/active     | 3.3/3.14 (megapixels) |
| CCD resolution (pixels) | 2,048-x-1,536         |
| Optical zoom            | 6x                    |
| Storage-media type      | SmartMedia            |
| Flash                   | Built-in              |
| Lens                    | Super EBC Fujinon     |
| Connectivity            | USB                   |
| Bundled storage         | 16MB                  |
| Power                   | Rechargeable cell     |
| Weight (grams)          | 410                   |
| Viewfinder              | 2-inch TFT            |
| Price (inc. VAT)        | £799                  |
| Contact                 | 020 7586 1477         |

|             |           |
|-------------|-----------|
| Value       | ■■■■■■■ 8 |
| Quality     | ■■■■■■■ 8 |
| Ease of use | ■■■■■■■ 9 |

Star Rating ★★★★★/8.7

|                           |                              |
|---------------------------|------------------------------|
| Model                     | EasyShare DX3900 Zoom        |
| Company URL               | www.kodak.co.uk              |
| Aperture range            | f/2.8                        |
| CCD: claimed/active       | 3.1/3.1 (megapixels)         |
| CCD resolution (pixels)   | 2,160-x-1,440                |
| Optical zoom/digital zoom | 2x/3x                        |
| Storage-media type        | CompactFlash                 |
| Flash                     | Built-in                     |
| Lens                      | Kodak Ektanar Aspheric lens  |
| Connectivity              | USB                          |
| Bundled storage           | 8MB                          |
| Power                     | Ni-MH rechargeable batteries |
| Weight (grams)            | 225                          |
| Viewfinder                | 1.5-inch TFT                 |
| Price (inc. VAT)          | £449                         |
| Contact                   | 0870 243 270                 |

|             |           |
|-------------|-----------|
| Value       | ■■■■■■■ 7 |
| Quality     | ■■■■■■■ 7 |
| Ease of use | ■■■■■■■ 9 |

Star Rating ★★★★★/7.5

|                         |                                  |
|-------------------------|----------------------------------|
| Model                   | Coolpix 995                      |
| Company URL             | www.nikon.co.uk                  |
| Aperture range          | f/2.6-5.1                        |
| CCD: claimed/active     | 3.34/3.14 (megapixels)           |
| CCD resolution (pixels) | 2,048-x-1,536                    |
| Optical zoom            | 4x                               |
| Storage-media type      | CompactFlash                     |
| Flash                   | Built-in                         |
| Lens                    | Zoom Nikkor                      |
| Connectivity            | USB                              |
| Bundled storage         | 16MB                             |
| Power                   | Rechargeable lithium-ion battery |
| Weight (grams)          | 390                              |
| Viewfinder              | 1.8-inch TFT                     |
| Price (inc. VAT)        | £800                             |
| Contact                 | 020 8541 4440                    |

|             |           |
|-------------|-----------|
| Value       | ■■■■■■■ 7 |
| Quality     | ■■■■■■■ 8 |
| Ease of use | ■■■■■■■ 7 |

Star Rating ★★★★★/7.7

|                         |                          |
|-------------------------|--------------------------|
| Model                   | Camedia C-4040Zoom       |
| Company URL             | www.olympus.co.uk        |
| Aperture range          | f/1.8-2.6                |
| CCD: claimed/active     | 4.13/3.87 (megapixels)   |
| CCD resolution (pixels) | 2,272-x-1,704            |
| Optical zoom            | 3x                       |
| Storage-media type      | SmartMedia               |
| Flash                   | Built-in                 |
| Lens                    | Olympus SuperBright Zoom |
| Connectivity            | USB                      |
| Bundled storage         | 16MB                     |
| Power                   | Lithium batteries        |
| Weight (grams)          | 320                      |
| Viewfinder              | 1.8-inch TFT             |
| Price (inc. VAT)        | £799                     |
| Contact                 | 0800 072 0070            |

|             |           |
|-------------|-----------|
| Value       | ■■■■■■■ 7 |
| Quality     | ■■■■■■■ 8 |
| Ease of use | ■■■■■■■ 8 |

Star Rating ★★★★★/8.7

## Product scores

Bar-chart quality scores run from 0-10, and reflect specific aspects of performance. Star Rating is an overall score, encapsulating these individual scores, plus any other factors relevant to your choice of purchase.

made lenses to focus light on the tiny CCD.

But the downside with CMOS is expense. The process creates image noise, so the manufacturer has to ensure this noise doesn't affect final image quality – passing the expense of this onto consumers. But CCD technology also offers advantages. Its small form-factor means the technology allows for smaller cameras and higher resolutions.

### Resolution

The most-quoted digital-camera specification is resolution but, while being a good measure of practical image print-size, high resolution doesn't guarantee high quality. It is, however, likely that an image taken on a high-resolution model will be sharper than that captured on a

low resolution one – because the former offers more available points of information.

A resolution of 300dpi is usually quoted as being the minimum for professional publishing, so this is the figure we'll take for optimum output on inkjets. This means that, at 300dpi, a 3.2-megapixel camera would print an image at 174-x-131mm (6.8-x-5.12-inches).

However, because inkjet printers are adept at maintaining quality at resolutions as low as 150dpi, it's likely you can blow-up images from 3-megapixel models to A4 size with scant deterioration in image integrity.

There's also a difference between the stated resolution of image-capturing chips and the number of pixels actually used by the camera. This is because pixels around the edges of the

chip serve no useful purpose. Of course, this doesn't stop camera manufacturers from quoting chip resolution rather than maximum output-resolution. Hence models like the Dimage 7 "has" a 5.2 megapixel resolution, but in fact is a 4.95-megapixel model. This is the equivalent of a 21-inch monitor having a 20-inch viewable image. In the specifications quoted in this feature, we state both actual and claimed resolutions, allowing you to compare them.

### Storage

The cameras on test are all high-resolution models, and, as such, require hefty storage solutions. There are three main types of

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## A question of power

The downside to digital cameras is that they're hungry for power. None of the solutions to this is perfect, but some are better than others.

The least palatable solution is disposable batteries. A better solution is rechargeable batteries, but extra sets are often needed because of limited power-up time. One of the most popular solutions is the rechargeable cell. This is a rechargeable single battery that holds a bigger charge than AA batteries. Many of these can be charged in the camera,

precluding the need for charger packs.

Olympus has taken a different tack, by using non-rechargeable lithium ion cells. Its Camedia 4040 Zoom uses two of these cells – which have a remarkably long life of months, rather than hours. Such battery longevity is a real convenience, but the downside is that they are £10 each – adding to the long-term cost of the model.

The best solution is carrying two rechargeable batteries. This way, you'll always have power, but without the expense of non-rechargeable batteries.





### Ricoh RDC-i700

The Ricoh stands out from the other cameras on test because it's also a personal-information manager and a mini-laptop. It has built-in memory, and slots for Compact Flash and a PC Card. This means it offers a high storage capability plus the ability to take a modem card. Armed with these, you can take a picture, edit it with the built-in software, plug the camera into a phone socket, and then email it around the world.

The i700 is compact, but heavy. Its 3.5-inch touch-sensitive LCD screen is massive by comparison with that offered by the other cameras, and it also lets the user draw and navigate using a bundled stylus pen.

|                         |  |
|-------------------------|--|
| Model                   | RDC-i700   |
| Company URL             | <a href="http://www.ricoh-cameras.co.uk">www.ricoh-cameras.co.uk</a> |
| Aperture range          | f/2.6-3.4  |
| CCD: claimed/active     | 3.0/3.14 (megapixels)  |
| CCD resolution (pixels) | 2,048-x-1,536  |
| Optical/digital zoom    | 3x/2.5x  |
| Storage-media type      | Internal, CompactFlash & PC Card                                     |
| Flash                   | Built-in   |
| Lens                    | Ricoh  |
| Connectivity            | USB  |
| Bundled storage         | 6MB internal   |
| Power                   | Lithium Ion rechargeable cell  |
| Weight (grams)          | 450  |
| Viewfinder              | 3.5-inch TFT   |
| Price (inc. VAT)        | £850   |
| Contact                 | 01782 753 300  |

|             |           |
|-------------|-----------|
| Value       | ■■■■■■■ 7 |
| Quality     | ■■■■■■■ 7 |
| Ease of use | ■■■■■■■ 6 |

**Star Rating** ★★★★★/7.7



### Sony DSC-S75

The DSC-S75 is a progression from last year's DSC-S70, but remains a relatively simple camera that sits between the consumer and professional markets.

It offers high-end features such as shutter and aperture priority, as well as a quality Vario Sonnar lens. This means that, with a little knowledge, anybody will be able to achieve great images from this camera.

It also caters for the gadget-conscious consumer, with its voice and video capabilities. It even warns the user if the lens cap has been left on.

Because this is a Sony camera, it uses the Memory Stick for storage. It also allows for file transfer using USB.

|                         |  |
|-------------------------|--|
| Model                   | DSC-S75 CyberShot                                  |
| Company URL             | <a href="http://www.sony.co.uk">www.sony.co.uk</a> |
| Aperture range          | f/2-2.5  |
| CCD: claimed/active     | 3.3/3.14 (megapixels)                              |
| CCD resolution (pixels) | 2,048-x-1,536                                      |
| Optical zoom            | 3x   |
| Storage-media type      | Memory Stick                                       |
| Flash                   | Built-in   |
| Lens                    | Carl Zeiss Vario Sonnar                            |
| Connectivity            | USB  |
| Bundled storage         | 8MB  |
| Power                   | Rechargeable in-lithium cell                       |
| Weight (grams)          | 316  |
| Viewfinder              | 1.8-inch TFT                                       |
| Price (inc. VAT)        | £700   |
| Contact                 | 08705 111 999                                      |

|             |           |
|-------------|-----------|
| Value       | ■■■■■■■ 7 |
| Quality     | ■■■■■■■ 7 |
| Ease of use | ■■■■■■■ 8 |

**Star Rating** ★★★★★/7.8



### Toshiba PDR-M65

Compared to most of the other cameras tested, the Toshiba is childishly simple. It is a digital version of a point-&-click camera. It lacks some of the advanced features that the other cameras boast, but it requires less commitment from the user. However, variable ISO sensitivity of 100, 200, or 400 – and macro focusing – does give it some versatility. You should be able to get by with only passing references to the manual. The supplied 8MB SmartMedia card is way too small for a camera that's capable of producing high-resolution images, so you'll have to buy a bigger card. And disappointingly, unlike Toshiba's other cameras, it has no LCD-panel illumination.

|                           |  |
|---------------------------|--|
| Model                     | PDR-M65  |
| Company URL               | <a href="http://www.toshiba.co.uk">www.toshiba.co.uk</a> |
| Aperture range            | Unknown  |
| CCD: claimed/active       | 3.3/3.14 (megapixels)                                    |
| CCD resolution (pixels)   | 2,048-x-1,536  |
| Optical zoom/digital zoom | 3x/2x  |
| Storage-media type        | SmartMedia   |
| Flash                     | Built-in   |
| Lens                      | Toshiba  |
| Connectivity              | USB  |
| Bundled storage           | 8MB  |
| Power                     | AA Alkaline, or rechargeable                             |
| Weight (grams)            | 285  |
| Viewfinder                | 1.8-inch TFT   |
| Price (inc. VAT)          | £429   |
| Contact                   | 08704 424424   |

|             |           |
|-------------|-----------|
| Value       | ■■■■■■■ 8 |
| Quality     | ■■■■■■■ 7 |
| Ease of use | ■■■■■■■ 8 |

**Star Rating** ★★★★★/7.8

storage for digital cameras: CompactFlash, Smart Media and Memory Stick (MS). MS is exclusive to Sony; while CompactFlash is the most widely used of the formats, and offers the most flexibility. There are two types of CompactFlash cards: One and Two. Type One cards are more common. However, type Two cards – such as the IBM MicroDrive – have capacities of up to 1GB.

Because storage cards add to the price of cameras, manufacturers tend to skimp on them. The largest bundled card is a measly 16MB. Fortunately, card prices are coming down, so it's worth investing in extra capacity. Expect to pay around £1 per MB.

### Size

Camera bulk can be a key purchasing-factor for amateurs, most of whom prefer their cameras to be pocket-sized. Just like heavy laptops, weighty cameras tend to get left in drawers. If you're likely to get most use out of a compact, lightweight model, then buy one.

### Video

Most of the cameras on test can capture short-span video clips. This is a consumer feature that looks good. But, in truth, its usefulness and practicality is limited. If you want digital video, buy a digital camcorder.

## Zoom with a view

Digital cameras can have two types of zoom – optical and digital. Optical is the traditional type, and uses moving lenses. Digital enlarges pixels, in the same way that scanners interpolate images to give the appearance of higher resolutions, but without adding any information to image. If you want a zoom facility, look for the model's optical-zoom capability as a true guide of its capability.

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### HP Photosmart 715

The HP Photosmart 715 is the company's very latest digital-camera offering. This is its first 3-megapixel model, and it boasts HP's no-nonsense, straightforward approach that it takes to most of its products.

Like Epson, HP has a special advantage in making digital cameras: they are designed to compliment the inkjet printers that are HP's mainstay. The 715's control interface is simple and friendly, meaning most users could quite easily use it without needing to resort to a manual.

Even more striking than the 715's elegant interface is its price: at only £349, it's the most affordable 3-megapixel camera on test. This represents remarkable value for money, being half the price of the equivalent Sony model. It may have a few less bells and whistles, but it does a fine job of taking pictures.



### Minolta Dimage 7

Of all models on test, the Dimage 7 offers the highest resolution, clocking up 5.2 megapixels. Its output, though, managed a top figure of only 4.95 megapixels. It has a 7x manual optical zoom, rather than the motorized zooms seen in the other models. This gives it a traditional feel, despite its high-tech nature. It comes with a 16MB CompactFlash card, which is a tad stingy, considering that a single uncompressed image at maximum resolution can take up to 13MB of this. If you plan to use this camera for high-resolution images – which is its point, after all – you'll need to buy at least a 64MB card, preferably larger.

The Dimage is complex camera, and you'll need to read the manual to get the best out of it. One feature I liked was a special sensor that is triggered when you look through the eyepiece, and which shuts down the LCD display – thus conserving power.



### Canon EOS-D30

The EOS-D30 is unlike the other cameras featured here. It's a Digital SLR that comes with all the features needed for a professional photographer. The price doesn't include a lens, although Canon SLR-owning photographers may well be able to use a compatible one. The D30 is compatible with a range of lenses from Canon. Check with Canon first.

One of the D30's main features is its jumbo-sized CCD. The bigger pixels allow more light to be recorded and, therefore, produce better images. It's the larger CCD that makes it possible to use lenses designed for film cameras.

This camera should appeal to professional photographers looking to take a first step into digital photography. For people already using Canon EOS film cameras, the controls will be familiar. For novices, having so much control may be daunting – but the same applies to equivalent film cameras.

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|                           |                       |
|---------------------------|-----------------------|
| Model                     | Photosmart 715        |
| Company URL               | www.hp.com/uk         |
| Aperture range            | f/2.8-8.0             |
| CCD: claimed/active       | 3.3/3.14 (megapixels) |
| CCD resolution (pixels)   | 2,048-x-1,536         |
| Optical zoom/digital zoom | 3x/2x                 |
| Storage-media type        | CompactFlash          |
| Flash                     | Built-in              |
| Lens                      | Seven-element lens    |
| Connectivity              | USB                   |
| Bundled storage           | 16MB                  |
| Power                     | AA alkaline           |
| Weight (grams)            | 308                   |
| Viewfinder                | 1.8-inch TFT          |
| Price (inc. VAT)          | £349                  |
| Contact                   | 08705 474 747         |

|             |           |
|-------------|-----------|
| Value       | ■■■■■■■ 9 |
| Quality     | ■■■■■■■ 7 |
| Ease of use | ■■■■■■■ 8 |

Star Rating ★★★★★/8.2

|                           |                        |
|---------------------------|------------------------|
| Model                     | Dimage 7               |
| Company URL               | www.dimage.minolta.com |
| Aperture range            | f/2.8-3.5              |
| CCD: claimed/active       | 5.2/4.95 (megapixels)  |
| CCD resolution (pixels)   | 2,568-x-1,928          |
| Optical zoom/digital zoom | 7x/2x                  |
| Storage-media type        | CompactFlash           |
| Flash                     | Built-in and hot shoe  |
| Lens                      | Minolta GT             |
| Connectivity              | USB                    |
| Bundled storage           | 16MB                   |
| Power                     | AA alkaline or Ni-MH   |
| Weight (grams)            | 505                    |
| Viewfinder                | 1.8-inch TFT           |
| Price (inc. VAT)          | £851                   |
| Contact                   | 01908 200 400          |

|             |           |
|-------------|-----------|
| Value       | ■■■■■■■ 8 |
| Quality     | ■■■■■■■ 8 |
| Ease of use | ■■■■■■■ 7 |

Star Rating ★★★★★/8.8

|                         |                                  |
|-------------------------|----------------------------------|
| Model                   | EOS-D30                          |
| Company URL             | www.canon.co.uk                  |
| Aperture range          | Lens sold separately             |
| CCD: claimed/active     | 3.25/3.1 (megapixels)            |
| CCD resolution (pixels) | 2,160-x-1,440                    |
| Zoom                    | Lens sold separately             |
| Storage-media type      | CompactFlash                     |
| Flash                   | Built-in and hot shoe            |
| Lens                    | Sold separately                  |
| Connectivity            | USB                              |
| Bundled storage         | 16MB                             |
| Power                   | Rechargeable lithium-ion battery |
| Weight (grams)          | 780 (not including lens)         |
| Viewfinder              | 1.8-inch TFT                     |
| Price (inc. VAT)        | £2,585                           |
| Contact                 | 0500 246 246                     |

|             |           |
|-------------|-----------|
| Value       | ■■■■■■■ 8 |
| Quality     | ■■■■■■■ 9 |
| Ease of use | ■■■■■■■ 6 |

Star Rating ★★★★★/8.9

## Macworld's buying advice

If you're a professional photographer, the Canon EOS-30 is your only real choice from those on test. If you're already using a Canon SLR film-camera, there's a good chance you'll be able to use some of the lenses and flash equipment.

For mid-range users, either of the FujiFilm models are excellent, capturing great images and boasting plenty of extra features. But the Minolta Dimage 7 came out on top, by virtue

of its 5.2-megapixel CCD. This makes it ideal for printing outsized images. It also has a great zoom lens and lots of professional-level features.

In the low-end category, the HP Photosmart 715 wins out, thanks to its great value.

Also worth a mention are the Olympus Camedia 4040 and Epson 3100z. Both perform well and only just missed out on top spot. For the less technical user, either the Kodak, Sony or Toshiba offer quality and simplicity. **MW**





# Be a layer player

Use Dreamweaver to animate layers and bring life to Web sites. By David Sawyer McFarland

**T**he latest crop of Web browsers lets you move layers around the screen to produce exciting animated designs. This kind of dynamic behaviour generally requires a deep knowledge of JavaScript and Cascading Style Sheets, as well as the experience and patience to deal with the differences between the various browser brands.

Fortunately, all of the required programming skill and Web development experience is built into Dreamweaver.

With Dreamweaver's Timeline tools, you can create elaborate animations, and even time-based actions like automated slide shows.

Programming animation requires that you specify two things: movement and time.

Imagine a ball moving across the screen; it takes the ball two seconds to travel from the left side to the right. A Web browser creates animation by drawing the ball in several different positions over several fractions of a second, so that you see the effect of smooth motion across the screen.

Each of these drawings occurs in a moment of time, referred to as a frame.

## Playing around

A Dreamweaver timeline can play back either when the page first loads, or when your visitor does something that you specify. For instance, you can add a button to a page that, when clicked, plays an animation on the screen.

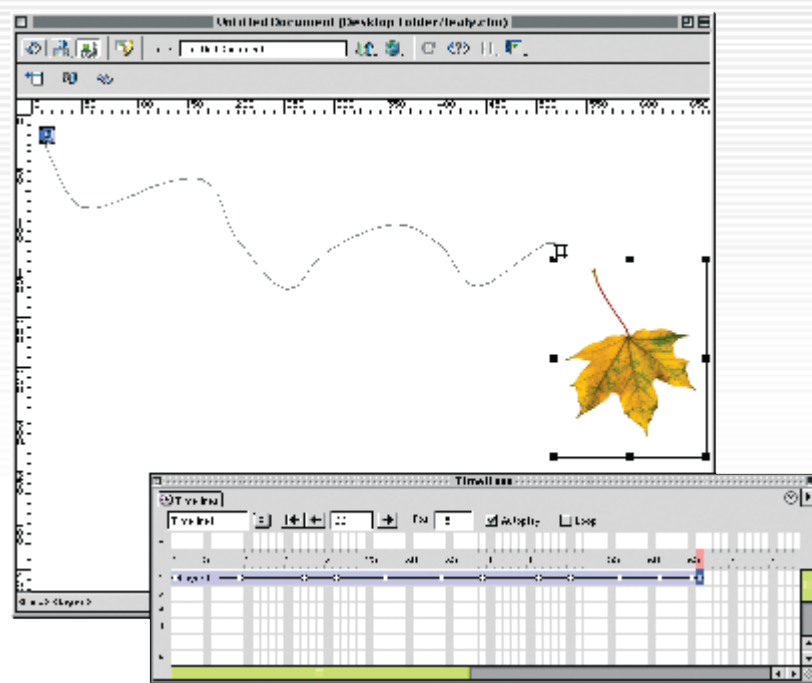
To create an animation, you'll place a graphic into a layer, and then direct that layer to move around the Web page. Animating a layer involves some very sophisticated JavaScript programming code. In fact, the code required to animate a layer can take up more lines than the actual HTML of the page. Trying to create such a program yourself could take weeks. But Dreamweaver can do it in seconds by recording the movement of your mouse as you drag a layer around the window.

To draw an animation on the screen, select a layer to animate. Now choose Modify>Timeline-Record Path of Layer; the Timelines panel appears, and Dreamweaver is ready to record your animation.

Grab the layer by its selection handle or

## Animation's no drag

The easiest method of creating an animation simply requires you to drag a layer along the route you want the animation to take. Dreamweaver can record this path and save it as an animation.



border and drag around the page. A trail of grey dots follows the cursor, indicating the path the animation will follow.

Dreamweaver doesn't record the timing of your drag, just the path. You'll specify the speed of the animation later, as described in see "Animation's no drag". When you release the mouse, a dialog box appears. It tells you that you can animate the following layer properties: Left, Top, Width, Height, Z-Index, and Visibility. In addition, you're told that Netscape Navigator 4 can't animate the width and heights of layers. Click OK. A grey line appears across the document window,

*continues page 132*

**TIP** Because looping immediately jumps from the end of the animation to the beginning, make sure whatever you're animating starts and ends at roughly the same place on the page. Otherwise, it will look as if the layer suddenly disappeared from one area of the page and then reappeared somewhere else.



**TIP** You don't actually have to have any animation on the page to take advantage of the Behaviors channel. Say, for example, you want a new browser window to appear exactly four seconds after a Web page loads – a delayed pop-up ad, perhaps. You'd just add an Open Browser Window action to frame 60 in the Behaviors channel, and then turn on the Autoplay checkbox in the Timelines panel.

winding its way along the path you just created; and a line with a series of hollow dots appears in the now open Timelines panel, as shown in "Animation's no drag".

If you turn on the Autoplay box (shown in "Animation's no drag"), your animation will play as soon as the page loads. This is a common choice, since it plays your breathtaking animation immediately upon your visitor's arrival. You can, however, start the animation by other means using the Play Timeline behaviour.

In addition, if you want to repeat your animation over and over again, turn on the Loop box.

At this point, you can press F12 to preview your animation in a browser. You can also preview it right in the document window using the Timelines panel (see "Finding frames", below). Click the Rewind button, and then click and hold the Forward button; Dreamweaver plays each frame of the animation.

## Moving properties

Once you've added an animation to the timeline, you can edit many of the animation's properties, such as its speed or movement.

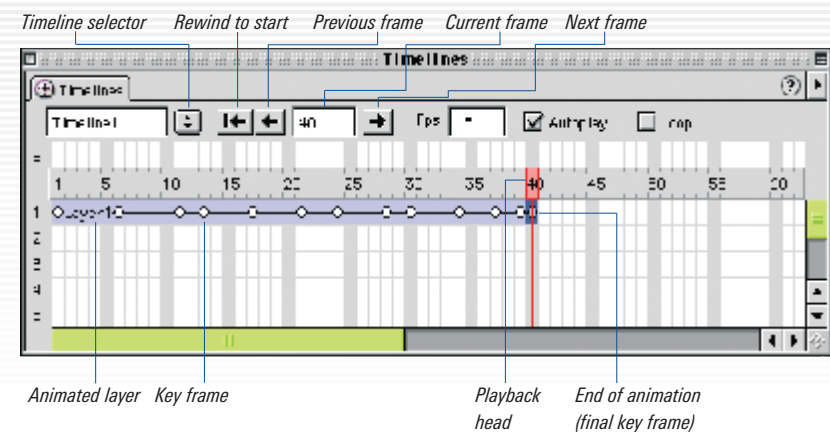
The Timelines panel is the control centre for your Dreamweaver animations (see "Finding frames"). Choose Window-Timelines to open it, or press Shift-F9.

The bottom half of the panel displays numbered rows called channels, which denote individual layer animations. For example, in "Key movement", a single animation sits in channel 1; it's the solid colour bar with a line running through it (called the animation bar). The numbers along the top of those rows indicate the frames; the animation bar pictured here is 40 frames long.

You can add multiple animations to a timeline, too, so that two or more layers move simultaneously across the screen.

## Finding frames

While working in Dreamweaver, you can view different frames of any timeline by using the Playback head and the arrow buttons. You can go to any point in the animation by dragging the Playback head left or right. The Current Frame box indicates which frame you're viewing. You can move forward or back one frame by clicking the right or left arrows. Holding down either button plays the animation – either forward or in reverse. Click the Rewind button to jump to the first frame in the timeline.



Each of those animations would appear in its own channel in the Timelines panel.

While the number of frames in a channel determines the number of times the Web browser will move the layer, it doesn't directly dictate the speed at which the animation plays. The speed is determined by the frame rate shown in the Fps (frames per second) box. By default, the timeline's frame rate is 15fps. The sample 40-frame animation in "Finding frames" would thus take about 3 seconds to play back. If you decreased the speed to 8fps, the same animation would take longer to play (around 5 seconds).

The lower the frame rate, the more the animation stutters; the higher the rate, the smoother the animation. While compared to a feature film, which runs at 24fps, the default rate Dreamweaver supplies may appear low. However, it's wise to stick with the supplied 15fps; redrawing layers is a complex process that requires a lot of power from the Web browser (and the computer it's running on). You can specify a higher frame rate, but a Web browser may not be able to obey. In order to draw each frame, it may need to slow the animation down.

Dreamweaver automatically creates a timeline when you animate a layer by recording its path. But you can also add a timeline manually by choosing Modify-Timeline-Add Timeline in the Timelines panel. A new timeline appears, to which you can add layers and create animations.

## Easy animation

There's an Easy Way to animate a layer – just by dragging it. Unfortunately, at times, you'll find the Easy Way to be less than accurate; drawing with a mouse is like using a bar of soap to paint the Sistine Chapel.

Fortunately, there's also a more precise way: selecting a layer (or several) and choosing Modify-Timeline-Add Object to Timeline.

When you add a layer, a new animation bar appears in one of the channels of the Timelines panel. The animation bar starts out as a solid blue span of 15 frames (one second) that contains the layer's name and begins and ends with a white dot. To extend the animation's length, drag the white dot in frame 15 to the right. For example, if you wanted to make a 10-second-long animation, you'd drag the dot out to frame 150.

You can also move the entire animation bar by dragging the bar along the timeline – a useful tactic when you want to add a slight delay to an animation, or stagger several different animations in the same timeline. For example, imagine you wanted to make two snow flakes (two layers, each with an image of a snowflake) appear at the top of the browser window and float down the page; but you also want the second snowflake to enter the scene about one second after the other. Drag the animation bar with the second snowflake animation so it begins on frame 16, one second after the first snowflake falls.

The white dots in the animation bar, called key frames, are your main tool for controlling an animation. In fact, when you add a layer to the timeline by using the Modify-Timeline-Add Object to Timeline command (or by dragging

the layer onto a channel), key frames are the only way to give the frame a movement path.

Each animation begins life with two key frames, one each for the animation's beginning and ending positions. So far, the layer is in the same position in both key frames; in other words, it doesn't go anywhere when the animation plays.

By adding and manipulating key frames, you can tell Dreamweaver where you want a layer to wind up at certain points in its motion; the program automatically calculates the layer's position in all of the intermediate frames, saving you endless tedium and grief.

For example, on a brand-new animation with only two key frames (beginning and ending positions), click the second key frame, which selects the corresponding layer in the document window. Drag the layer to the spot on the page where you wish the animation to end and let go. Now when you play the animation, the layer travels from its starting position to the new ending location. Similarly, you can change the beginning position of the layer by selecting the first key frame and dragging the layer.

Of course, you won't get far in life just making your layers fly from point A to point B. If you add more key frames between the starting and ending ones, you can define new spots for your layer-in-motion to hit at certain times. (In fact, when you create an animation by dragging a layer around the screen, Dreamweaver generates dozens of key frames; see "Animation's no drag.")

To manually add a key frame, click a frame in the Timelines panel animation bar (one that's not already a key frame). When you click, the playback head (the red box that appears among the frame numbers) moves to the frame.

Now choose Modify-Timeline-Add Keyframe. A hollow circle appears in the animation bar at the frame you selected. You can also press F6 to add a new key frame at the selected point in the animation bar.

Having created a new key frame, you're ready to specify the layer's new position at this point, confident that Dreamweaver will automatically regenerate its movement from the key frames before and after the one just added.

## Location is key

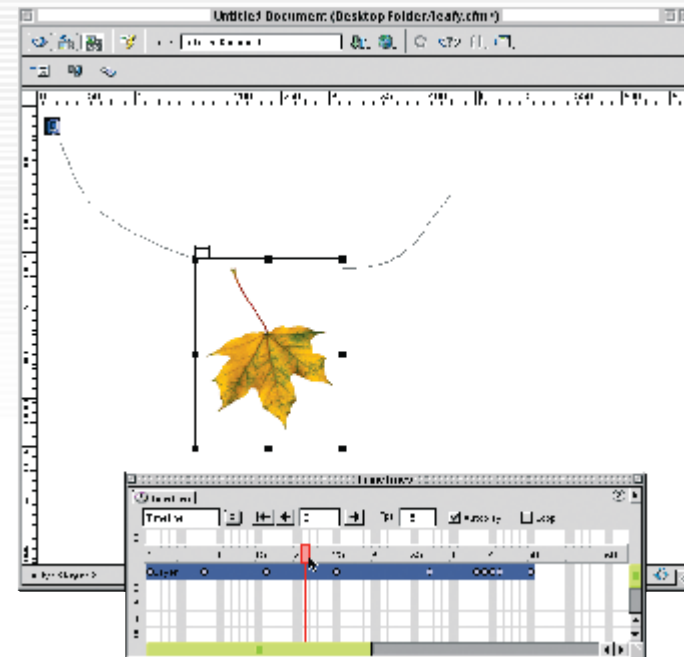
Once you've created a new key frame, the corresponding layer is selected in the document window; you can then drag it to a new location. When you release the mouse, Dreamweaver redraws the grey path line to indicate the new path the animation follows, leading up to, and away from, your new key frame. Similarly, you can adjust your moving layer's position at any existing key frame just by clicking the corresponding spot in the timeline and then dragging the layer on your screen.

But you can do more than change a layer's position at each key frame; you can also change other properties at each spot, like this:

**Visibility** Use the Property inspector to set the visibility property of a layer at a particular key frame.

## Key movement

You can move any key frame by dragging it in the timeline. To make an animation run longer, drag the last key frame to the right. This increases the total number of frames in the animation. It also spreads out any key frames within the animation bar, making the overall animation slower. To only move the last key frame, and prevent Dreamweaver from redistributing other key frames, press option while dragging the end frame.



You'll therefore make the layer disappear (or reappear) on cue. Unfortunately, there is no way to fade the layer out gradually; it's either visible or hidden.

To make a layer disappear and reappear later in the animation, click a key frame and set Visibility to hidden; option-click consecutive frames to create a series of hidden key frames. Change the last key frame to visible at the point when you want the frame to reappear.

**Z-Index** You can also change the stacking order of the layer at a particular key frame. Click the key frame and use either the Property inspector or Layers panel to set the layer's Z-Index.

Imagine a moon, for instance, flying around a planet. It moves from behind the planet at first, orbits around the front of the planet, and then eventually disappears back behind it. In this example, the planet would be in one layer, the moon in another.

At first, the Z-Index of the planet would be greater than that of the moon. After the moon moves from behind the planet, you would add a key frame, and increase the moon's Z-Index so that it's larger than the planet's, putting the moon layer in front of the planet.

After the moon crosses the face of the planet, you would add another key frame and set its Z-Index back to its original setting – lower than, and behind, the planet.

**Width and height** You can also change the dimensions of a layer at a key frame by changing the W and H fields in the Property inspector. The effect is very interesting: not

continues page 134

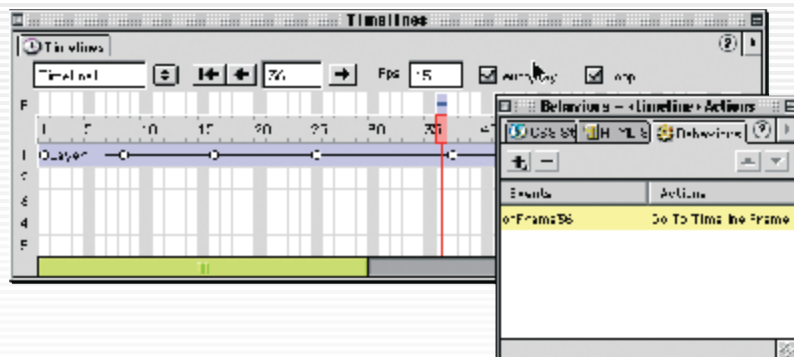
**TIP** A quick way to add a layer to the timeline is to drag it from the document window into one of the Layer channels on the Timelines panel.

**TIP** You can conserve a few precious calories by option-clicking the frame you wish to turn into a key frame. The cursor turns into a tiny hollow circle and instantly creates a new key frame.



# Good behaviour

The Behaviors channel lets you add time-based behaviours to your page. Change the text in a layer every 10 seconds, for example, or write a new message to the Web browsers' status bar when an animation reaches its last frame.

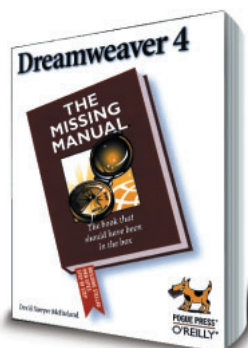


only does the layer change size when it reaches that key frame, but it automatically and gradually changes size in each frame in between. (Unfortunately, this feature doesn't work in Netscape Navigator 4 or any version of Opera.)

Once you create a key frame, you can move it in the timeline by dragging it (see "Key movement"). This is how you control the pace of movement between key frames.

The more frames between key frames, the slower the movement; fewer frames means faster movement.

For example, in "Key movement", a 25-frame animation of a leaf moving along a path has three key frames. The second key frame is selected, showing that the leaf is only about halfway along the path (the grey line). As you can see in the timeline, there are 19 frames from the first key frame to the midpoint.



There's more on layers in Dreamweaver 4: The Missing Manual by David Sawyer McFarland (Pogue Press/O'Reilly; ISBN: 0-596-00081-2). This article is the first of a series of Macworld extracts from the book, which costs £17.50 from all good booksellers.

Next month: more from Dreamweaver 4: The Missing Manual.

## TIP

Timelines, frames, key frames, and other terms associated with Dreamweaver's animation tools are not a part of HTML, JavaScript, or CSS. There's no tag called key frame and no JavaScript command called play. Dreamweaver's Timelines panel and animation capabilities are the result of sophisticated programming on the part of the program's engineers, and as such, are specific to Dreamweaver.

## Leaf through

There are only three frames, however, from the second key frame until the final one. In other words, it takes about 20 frames (a little over one second) for the leaf to travel halfway along the path. The last half goes much faster – only about four frames, or less than 1/4 second.

In this example, the leaf will travel leisurely along the screen, until it reaches the midway mark in its path, and will then scream quickly to its destination. If you drag the middle key frame to the centre of the animation bar, the leaf would travel at the same speed throughout the animation.

Directly above the frame numbers that appear in the Timelines panel, you'll find another row of frames labelled B. It's the Behaviors channel. You can use this channel to trigger a Dreamweaver Behavior at a particular frame in the timeline. In fact, you may have already used the B channel without even knowing it. When you turn on the Loop box in the Timelines panel, Dreamweaver inserts a Go To Timeline Frame

behaviour into the Behaviors channel in the last frame of your animation (see "Good behaviour", left). This behaviour causes the animation to return to the first frame in the timeline and play again.

Suppose you want an alert box with the word "Boom!" to appear at the instant when one animated layer touches another. All you'd have to do is select the frame where the two layers meet, and then add a Pop-up Message action to the Behaviors channel.

To add a behaviour to the timeline, just click the relevant frame in the Behaviors channel of the Timelines panel – for example, the frame where two layers collide.

(Click key frames in the animation bars below to see where the action is at any given frame, and then click in the Behaviors channel. The Behaviors channel doesn't have key frames.) The frame in the Behaviors channel turns black to show it's selected.

Now open the Behaviors panel (Windows-Behaviors), click the + button, and choose a behaviour from the menu. For example, you could make a new browser window pop up by selecting the Open Browser Window behaviour.

After you've added a behaviour to the channel, a dash appears in the frame, and the Behaviors panel lists the event (it should look something like this: onFrame36). Unlike a regular behaviour, you can't select an event yourself. The frame itself acts as the event; the action is triggered when the timeline reaches the specified frame.

You can move your newly created Frame behaviour by dragging it left or right in the Behaviors channel, or remove it altogether by clicking its frame, clicking its name in the Behaviors panel, and then clicking the – (minus) button in the Behaviors panel.

You can create several different animations on one page, each on its own timeline and control them. For example, you might want to have a layer fly onto the page when your visitor's mouse moves over a navigational button, and off screen when the mouse moves off the button. The fly-on, fly-off layer might supply information about where the button leads, or even contain a submenu of additional buttons.

To add an additional timeline, open the Timelines panel (Shift-F9); then choose Modify-Timeline-Add Timeline. A timeline appears in the Timeline field in the upper left of the panel.

Dreamweaver proposes generic names like Timeline1 and Timeline2, and so on; to provide a more recognizable name – fly or submenu1, for example – select the name of the timeline from the menu in the Timelines panel. Choose Modify-Timeline-Rename Timeline. A dialog box appears; type the new name and click OK.

It's best to name a timeline immediately after creating it. If you change its name after applying Behaviors that control the timeline, they won't work. You'll then need to edit each Behavior to give it the timeline's new name.

If you decide you don't want a timeline any longer, you can delete it; select a timeline from the Timelines panel, and choose Modify-Timeline-Remove Timeline. (Doing so removes all animations and actions in that timeline.) MW



secrets:

OS X



# Getting to the root...

Becoming a superuser can be dangerous. Check out Macworld's guide to the pitfalls. By David Hart

As far as the classic Mac OS is concerned, a user is a user is a user. But the Unix core of Mac OS X introduces different user levels. At the top of the heap in every Unix system is a single, all-powerful superuser – also named root (after the topmost directory of the Unix file system). If you have root access, you have ultimate power: you can alter or delete any file or folder in that system.

First, let's back up for a minute. A user who is designated as an administrator can adjust system preferences (such as the network address), update the OS, and roam almost unhindered throughout that system.

But sometimes, *almost* doesn't cut it. For Unix omnipotence, you want to act as root. For example, you may want to adjust some settings that Apple put out of the reach of administrators – such as some system-configuration files or the built-in Apache Web server (see Mac OS X Secrets, September 2001). Or perhaps you want to install some Unix software before Aqua-friendly installers become available. Or maybe you just can't stand not having absolute control over your operating system.

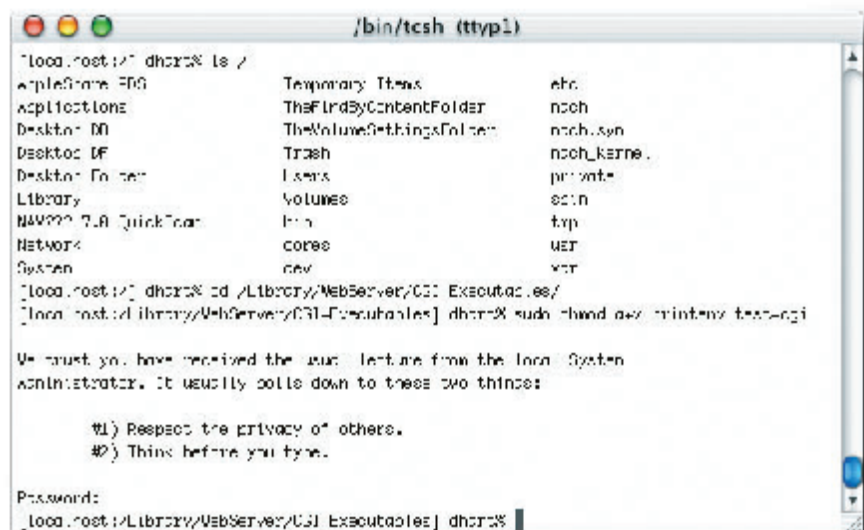
Whatever your reasons, root access is only a few short commands away.

Apple doesn't tell you how to enable your root account in OS X – for good reason. As root, you can delete your entire file system in fewer than ten keystrokes. And, logging in to your root account opens up your system to the security vulnerability inherent in any Unix system. If someone cracks your root password, for example, your machine can be taken over remotely. If your root account is not enabled in the first place – as in the default Mac OS X installation – there's a much smaller chance of that happening.

## Root of attack

Some Mac users may think they need to enable their Mac OS X machine's root account to do anything serious, but that's just not true. We will show you an alternative that allows you to act as root while keeping your root account disabled, thus protecting against typical network-based attacks.

But root access – even if you don't enable



the root account – is risky. To see where you can do the most damage when you gain root access, enter this command in Terminal: `ls /`. You'll see the folders in the root directory of the file system, including the same folders that you see via the Finder: Applications, Library, System, and Users. But you can also see directories that the Finder does not show, such as `bin`, `etc`, and `usr`. As the superuser, you could recklessly delete files in these hidden directories, unwittingly circumventing the file-access permissions that would otherwise keep you from harming them. Damaging these files can wreak havoc with your system, potentially even keeping it from booting up. And in Unix, there is no undo command.

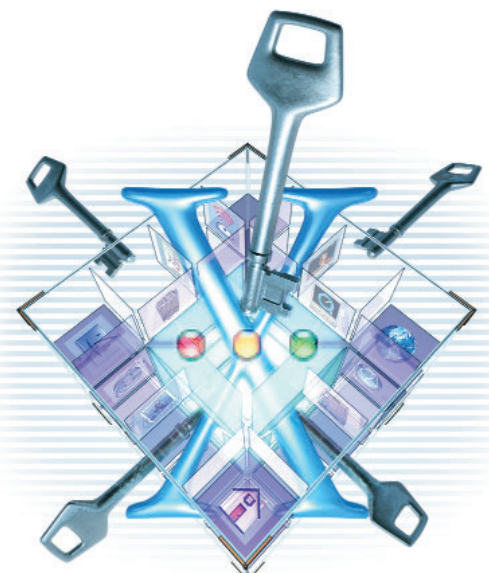
The Unix directive needed to execute commands as root is `sudo` (pronounced soo-doo), which stands for "superuser do". (Type `man sudo` in the command line to read more information about `sudo`.) To use `sudo`, you must be logged in as an administrator of the system.

To execute a command as the superuser, insert `sudo` and a space in the command line, before the Unix command that you want to issue. For example, you can use this command to make user `jsmith` the owner of the file `test.html`:

continues page 140

## The root of the matter

By typing `ls /` at the command-line prompt, you can see a list of the folders at your machine's root level (you can't see them via the Finder), and change permissions using `sudo`.





# Mac OS X tips and tricks

## Locked trash

Under the Classic Mac OS, you can trash locked files in the Trash by holding down the Option key and selecting Empty Trash from the Special menu. This trick won't work under OS X. To trash locked files under the new Mac OS, you must open the Trash, click the item you'd like to trash, press **⌘-I** (Get Info), and uncheck the Locked option. Once you've done so you can discard the file.

## Inside source

Those running OS X who want to know exactly what the Mac OS is doing while it boots can press **⌘-V** just after pressing the Power key. Doing so

launches the Mac into "verbose" mode – a mode that trails scads of commands that only a developer could love across your screen as the Mac boots up.

## QuickTime clash

If you have a Mac that supports Theater Mode – a software enhancement that increases brightness and colour saturation in supported applications – and attempt to use Theater Mode in OS X's Classic environment, you may run into problems. Applications such as QuickTime Player 4.1.2 that support Theater Mode may cause other Classic applications to behave oddly when Theater Mode is enabled.

Therefore, Apple suggests that you use QuickTime

Player 5 when running OS X, which is included with OS X. If you use applications other than QuickTime Player that employ Theater Mode, Apple says you should open the Extensions Manager in the Classic environment, disable the Theater Mode extension, and restart Classic.

## A folder by another name

If you rename OS X's Utilities folder, you alter the path name to that folder and therefore interrupt any processes that require that path name. For example, with this folder name changed, you can't print because OS X expects Print Center to be inside a folder called "Utilities", and when it finds it isn't, the process gives up and refuses to print.

**'If you have root access, you have ultimate power: you can alter or delete any file or folder in that system.'**

`sudo chown jsmith test.html`  
When you invoke `sudo`, you'll be asked for a password. Enter the password for your administrator account. Even though you're already logged in as that user, you need to enter your password again (for security reasons). Once you've done so, you have a short time (five minutes by default) during which you can issue other commands using `sudo` without having to re-enter a password.

When issuing a series of commands as root, you might get tired of repeatedly entering `sudo`. Or perhaps you want to run a shell script – a file that, when executed by root, issues a series of Unix commands. You can get root access for as long as you like by invoking `sudo -s`. To end a superuser session before the power goes to your head, type `exit`.

**Example: Run CGI sample scripts** Now you'll want to try out your superuser status. Let's say you want to run the two CGI scripts, `printenv` and `test-cgi`, that Apple includes with OS X for use with Apache. However, as installed, they don't work because the file permissions are set incorrectly. To briefly explain, Apache is configured to run CGI scripts that are stored in the folder `/Library/WebServer/CGI-Executables`, as long as the script files are marked as executable (the demo script files aren't). To reset these permissions, issue the following consecutive commands in Terminal:

```
cd /Library/WebServer/CGI-Executables
sudo chmod a+x printenv test-cgi
```

Assuming that you've turned Web sharing on via the Sharing panel of System Preferences, you can now run the two sample CGI scripts by entering these URLs in your Web browser:

```
http://localhost/cgi-bin/printenv
http://localhost/cgi-bin/test-cgi
```

**Example: Edit message of the day** You may also need to assume the mantle of superuser to edit files in the `usr`, `bin`, etc, and other hidden directories, but you alter them at your own risk. When you're ready to try it out, one file you can edit with some degree of abandon

is the message of the day file in `/etc/motd`, which is accessible via the command line. The message of the day appears when a remote user logs in to your system from a terminal interface. By default, the Mac OS X message of the day is "Welcome to Darwin!"

To make that message a little more exciting, you can edit `/etc/motd` with a Unix editor such as `pico` or `vi`. The command `vi/etc/motd` or `pico /etc/motd` will let you open the file only as read-only. However, if you "sudo" the editing command, you'll be able to save a more informative message, such as "Welcome to Dave's Mac OS X. The system will be down tomorrow for maintenance."

To edit the message of the day or other Unix preferences files via TextEdit instead of `pico` or `vi`, drag the TextEdit icon on top of the icon for the shareware application Pseudo (\$15; [personalpages.tds.net/~brian\\_hill/pseudo.html](http://personalpages.tds.net/~brian_hill/pseudo.html)).

**Example: Install Unix software** Finally, here's a more complex situation: installing Unix software for which a complete, user-friendly Aqua installer has not yet been created. Perhaps you want to install the free MySQL database to go along with your Apache Web server. There isn't a Mac OS X-compiled version available for download from the MySQL Web site, but a Web search turns up (among other choices) Marc Liyanage's Web page ([www.entropy.ch/software/macosex](http://www.entropy.ch/software/macosex)), where you can download MySQL compiled for Mac OS X.

Without root access, it is impossible to install this piece of software. An Aqua installer handles most of the dirty work, but the instructions do call for a handful of commands to be run with `sudo`. (The commands are listed on Liyanage's Web page.)

There is rarely a need, or a good reason, for OS X users – even those who have above-average skills – to enable the root account. In fact, there are excellent reasons not to enable it – especially since the `sudo` command allows you to wield the power of root access throughout your system. As our examples demonstrate, `sudo` gives you the ability to configure (or confound) Mac OS X at its most fundamental level.

MW





# Colour complexity

ColorSync can be a godsend, but its myriad files can cause confusion. By Bruce Fraser

Print professionals rely on ColorSync for accurate colour, but that doesn't mean we like its complexity. Colour-management menus crammed with head-scratching options such as Generic P22 1.8 Gamma Monitor aren't user friendly. Although colour management may never be easy, you can weed out unnecessary profiles.

ColorSync is the part of the Mac's system software that addresses the problem of colour mismatches between different monitors, scanners, digital cameras, and printers. For example, when you send the same set of RGB values to several monitors, each one displays somewhat different colours.

To compensate for differences between devices, you have to send the appropriate RGB or CMYK values to each device. That's what ColorSync does – it changes the numbers in a file as it goes from one device to another.

## Painting by numbers

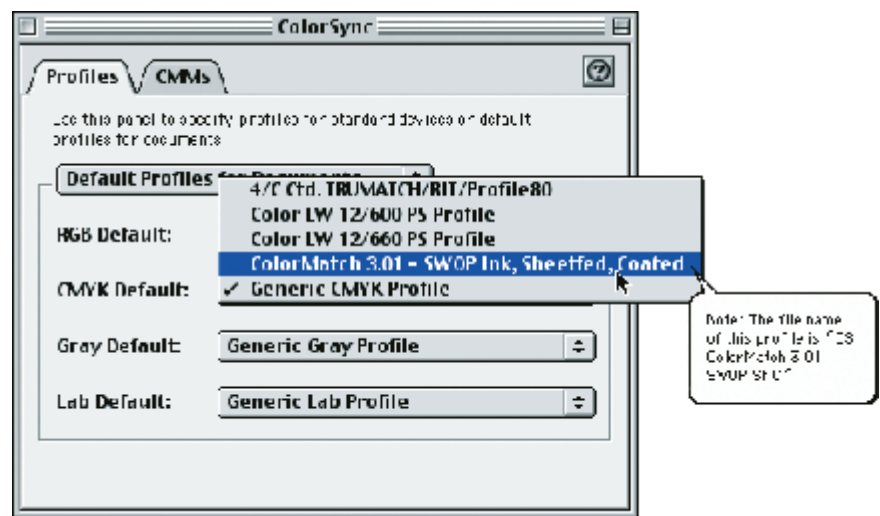
Profiles are data files that tell ColorSync what numbers each device needs to reproduce a given colour. One good rule of thumb is that you don't need profiles describing devices you don't own or use.

To begin the clean-up, go to your System Folder, open the ColorSync Profiles folder, and set it to List view. If your setup is typical, you could have more than 100 unnecessary profiles in the folder. Start by deleting recognizably named profiles that you don't need.

Don't own an Apple Color StyleWriter? Then you can safely drag to the Trash not only Apple Color SW Pro and Apple Color SW Pro SN, but also files such as Color SW 1500 Pattern, Color SW 1500 Scatter, Color SW 2000 Series Pattern, and so on – all the way up to Color SW 2500 Scatter Best 2. Repeat the process with all other profiles for devices you don't own or use.

Don't forget to look inside the Display Profiles folder nested in the ColorSync Profiles folder. If you don't own a PowerBook 540C, for example, you can get rid of PowerBook 540C Standard. Ditto for all the profiles for monitors you don't use, with a couple of exceptions. Don't delete Default Display Profile or Display Profile 256 – ColorSync needs these.

If you haven't calibrated your monitor using ColorSync, these profiles won't exist. And if you



find an alias in the Display Profiles folder, don't delete it, either – the Monitors control panel uses these aliases.

If you're not sure whether you'll need a certain profile in the future, make a folder called Unused Profiles, which you can put anywhere outside the ColorSync Profiles folder.

It's not always easy to tell which profiles you need. One complicating factor is that profiles have two names. The external names, or file names, are the ones you see in the Finder when you open the ColorSync Profiles folder. The internal names, or descriptions, are the ones that appear in the ColorSync control panel and in the menus of applications such as Adobe Photoshop.

Apple-supplied profiles, such as Apple 13" RGB Standard or Apple Multiple Scan 20 - D50, use the same name in both cases, but many profiles from other sources do not, and sometimes the external and internal names are different. For example, it's not obvious that the profile that appears on menus as Epson Stylus Photo 1270 Premium Glossy Photo Paper is the profile that shows up in the ColorSync Profiles folder as SP1270 RC. ColorSync 3.x provides an easy way to discover which external profile corresponds to which menu entry.

A little-known feature of the ColorSync 3.x

continues page 144

## Control ColorSync

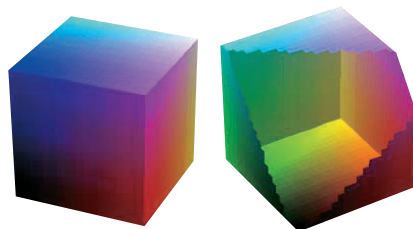
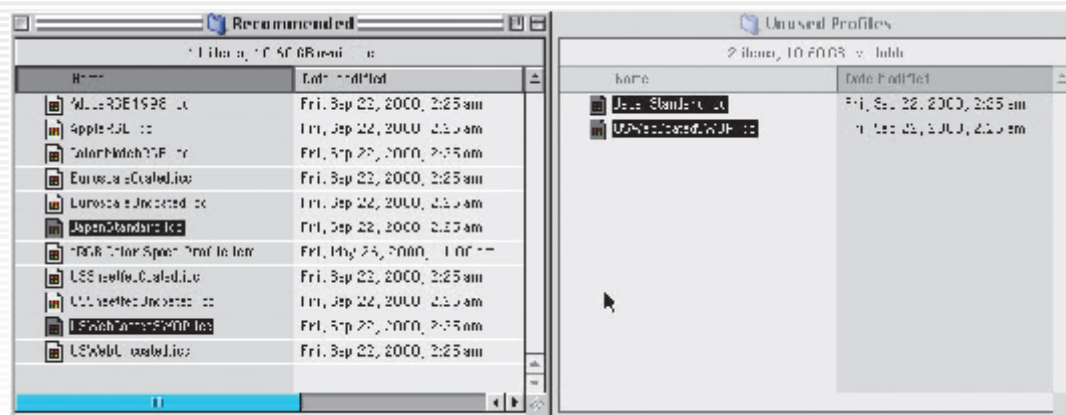
The ColorSync control panel tells you the file name of a profile when it differs from the internal, descriptive name; this helps you identify unnecessary profiles that clutter your system.





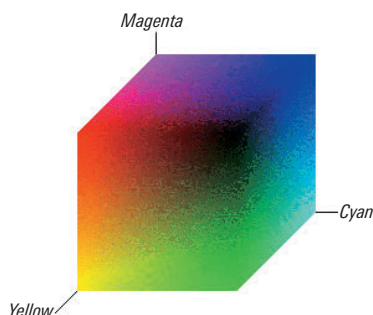
### Application profiles

Many of the CMYK profiles that come with Adobe Photoshop and Illustrator aren't needed – for instance, the JapanStandard profile.



### 3D space

The CMY (above) and RGB colour spaces (below) are mathematical representations of colour, where all colours are located on a three-dimensional axis represented in cube-form.



control panel is its ability to reveal the file name of a profile when it differs from the internal name. To see this in action, open the ColorSync control panel, click on the Profiles tab, and choose Default Profiles For Documents from the top menu in the dialog box. Four menus appear: Default RGB, CMYK Default, Grayscale Default, and Lab Profile.

**RGB profiles** Click on the Default RGB menu to view RGB profiles on your system. When holding the cursor over a profile whose file name differs from its internal name, a help balloon appears that reads, "Note: The file name of this profile is..." This reveals, for example, that the profile that creates the Kodak XLS 8300 Printer menu entry is actually xls830a7.pf. If you don't own or use these devices, you can find xls830a7.pf and ebug18a7.pf, and then discard them.

**CMYK profiles** Repeat the help-balloon process for the CMYK menu. Here you may want to be slightly less ruthless: I recommend holding on to profiles for industry-standard proofing systems such as Imation Matchprint or Fuji ColorArt, because even if you don't own them, you may wind up delivering a job to a repro house that does. But unless you have, say, a QMS ColorScript 100 Model 30i, there's no point in keeping qms1030i.pf. Even if your repro house uses one for proofing, it will almost certainly have tweaked the profile to its own standards. (Don't bother deleting Generic CMYK, Generic RGB, Generic Lab, or Generic XYZ – they'll reappear when you restart.)

**Greyscale and Lab profiles** You probably won't have unmanageable numbers of these profiles, but may well have duplicates, so take time and weed them out. When you're done,

you'll have much shorter and more-relevant profile menus.

Adobe Photoshop 6 and Illustrator 9 offer another trick for simplifying colour management. You can set which profiles appear in the programs' Color Settings dialog boxes when the Advanced option is not selected.

To limit these profiles, go to System Folder-Application Support-Adobe-Color-Profiles-Recommended. Inside the Recommended folder, you'll see a list of eleven profiles. If you're a typical print publisher in the UK, you probably have little use for Apple RGB (it's based on the Apple 13-inch monitor), or for the JapanStandard CMYK profile. Put them in an Unused Profiles folder so you'll still have them if you ever need them.

If you want to use custom profiles with Photoshop or Illustrator, you can move those into the Recommended folder so they will always show up in Color Settings. Although these profiles are located in a folder for Adobe applications, other applications can access them as well. (The Photoshop and Illustrator installers automatically put an alias of the Recommended folder inside the ColorSync Profiles folder, making the profiles available to any application that uses ColorSync.)

The many differences between applications still present plenty of opportunities for colour-management confusion. And as applications migrate to Mac OS X, there will likely be new colour-management wrinkles to smooth. But in the meantime, if you rid yourself of the raft of useless profiles that come with applications and OS upgrades, you'll simplify colour management. **MW**

## Colour spaces: the low-down

A colour space is a model of up to four dimensions that represents colour in intensity values. They also specify how colour information is represented.

The largest colour space is that of the human eye. About half the size of this colour space is the RGB space. Any colour expressed in RGB is a mixture of three primary colours: red, green, and blue. All digital workflows make use of this colour space. For example, scanners read the amounts of red, green, and blue

light reflected from an image's surface. Understanding the RGB colour space is important to printing, because it is the digital colour-space used to represent on-screen documents that will end up in print. RGB colours are also known as luminous, or additive, colours. This is because black is displayed on a TV or computer screen by removing all three sources of colour, while white is displayed by adding maximum amounts of all three colours.

But because the range of RGB colours is vast, many of them are not achievable

in print as process colours – this is where the CMYK colour space comes in.

The CMYK colour space consists of Cyan, Magenta and Yellow, as primary colours and red, green, and blue as secondary colours. In theory, the black shouldn't be needed, as an equal mix of C, M and Y gives black. However, when printed, the result is closer to dark brown.

The CMYK colour space is subtractive – if you start with white and subtract all colours equally, you get black.



# Enjoy the views

Web forums can attract new visitors to a site for little cost. By Lisa Schmeiser

**F**ew Web sites come with a built-in collection of visitors. One way to attract people to your site and keep them coming back is to create your own online watering hole – a bulletin board. The technical barrier for visitors is low, and a lot of the Web's best community spaces centre on bulletin boards. Here's how to host your own. For starters, think about whether you should host one.

Before you succumb to the lure of opening your site to lively community dialogue, ask yourself whether a bulletin board will add to your site or overwhelm it.

If you're running a Web site with frequent or time-sensitive updates, it's helpful to offer a forum where your readers can comment and query. For example, a Web site about XML implementation has content that changes often and focuses on resources; the topic lends itself to extended discussion. However, if you don't update your site frequently – or don't have content appropriate for ongoing discussions – you may have difficulty nurturing a forum.

## Big personality

Some online communities are famous for raucous personalities, others for supportive or cerebral discussions. Before you put up a space where people can post comments, think about what kinds of discussions you want, and how they will complement the rest of your site. For example, in Mighty Big TV's forums ([www.mightybigtv.com](http://www.mightybigtv.com); motto: "Television without pity"), the moderators keep the discussions whip-smart and focused, with well-placed quips. This conversational style matches the site's editorial voice.

A bulletin board is like a cocktail party, and the moderator plays the role of the gracious host. It's his or her job to circulate, making sure that everyone's engaged in an interesting conversation and nobody's trapped next to the crab dip listening to an insulting boor or a tiresome bore.

Some parties run themselves, especially if all the attendees know one other or have a common interest. Other parties need a few nudges, especially at the beginning when everyone's standing around staring at

strangers. The worst cases require an arbitrator – or even a bouncer.

Hosting a good bulletin board requires a clear sense of the tone you'd like to promote. You should have plans in place for setting up and encouraging community standards – such as good spelling and grammar, and the exclusion of profanity.

## Keeping on track

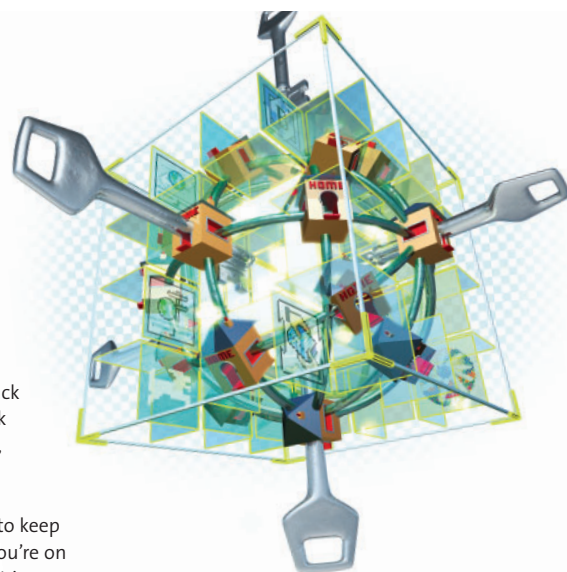
Before you install your bulletin board, make sure you'll have time to keep track of it. To do it right, you'll need to check in on conversational threads regularly, including at night and on weekends. You'll also need a little help from your friends – find someone you can trust to keep the forums running smoothly when you're on vacation. For details on what to expect in your new role as moderator, ask forum hosts whose boards you admire how they've handled worst-case scenarios and how much time they spend moderating.

One forum duty that took me by surprise was dealing with frequent new posters who would barge in on a board I was moderating, ignore the plentiful open discussions, and post a deluge of questions other people had already answered. I developed a deep reserve of patience, and tried to teach other posting members by example. I politely thanked users for their enthusiasm, redirected them to the forum thread that would answer their questions, and then closed the redundant thread.

Another forum duty every moderator has to face is restoring order when your visitors argue viciously. In flame wars, bulletin-board moderators often get strafed when they try to intervene. Do you want to take the high road by engaging the poster off list, or invoke your rank as the host and drop-kick him or her into the great beyond?

Anticipating difficult situations and being prepared to spend time resolving them – sometimes at inconvenient moments – is part of a moderator's role.

Once you've settled on a strategy for



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## Mac-friendly bulletin-board software

| PRODUCT                 | PUBLISHER   | PRICE  | PROS   | CONS   | ADVICE  |
|-------------------------|---|--|--|--|---|
| DiscussionApp 3.0       | Server.com<br>( <a href="http://server.com/communityapps/discussionapp/index.html">http://server.com/communityapps/discussionapp/index.html</a> ) | Free if you display Server.com ads                   | Threaded interface lets you display several conversations simultaneously.  | Offers limited options for customizing and administering the forum.  | Good choice if you want to be able to modify your forum's interface without venturing into server or software administration. |
| Lusenet                 | Phil Greenspun<br>( <a href="http://www.greenspun.com/bboard/index.tcl">www.greenspun.com/bboard/index.tcl</a> )                                  | Free   | Greenspun site hosts the bulletin board, so you don't have to perform complex setup and administrative tasks.  | You cede some control to the people running the tool.  | Viable option for people who simply want to fill out a form and host a no-frills, threaded discussion area.                   |
| Threads                 | Antone Roundy<br>( <a href="http://www.mouken.com/threads/">www.mouken.com/threads/</a> )   | \$12   | You can host and administer this software on a Mac, giving control over the board. Customizable software offers email notification and other user perks. Easy for visitors to use. | Requires you to do the installation and troubleshooting.   | A good combination interface for those who want to have the option of viewing either threaded discussions or full comments.   |
| Ultimate Bulletin Board | Infopop<br>( <a href="http://www.infopop.com">www.infopop.com</a> )   | Starts at \$99; depends on level of customer support | Elegant and customizable interface; setting up varied topics and individual threads is easy.   | You must have the time and expertise it takes to configure and administer a Web server on your Mac. Expensive. | The most hands-on and professional of the applications here; an excellent tool for those who run vital bulletin boards.       |
| All prices exclude VAT. |   |  |  |  |   |

nurturing your online community, it's time to begin implementing the bulletin board. Your first step is to select a software package that will support the goals you just articulated.

This is where form marries function; you want a bulletin-board format that's appropriate for your content. For example, if you run a news Web site and want to encourage instant input from users as they read and respond to articles, then you need bulletin-board software that appends a threaded discussion to each article. On the other hand, if your goal is to use your Web site as a hub for online discussions, pick software that lets you sort forum threads on pages separate from your other Web-site content,

such as Infopop's Ultimate Bulletin Board and Antone Roundy's Threads. This type of program fosters a well-designed community space.

Before you commit to any package, ask yourself how much time you're willing to spend troubleshooting or programming your tool. You may be tempted to pick up a free forum script and install it on your site, but if you're not fond of debugging and troubleshooting, you're better off investing in software that doesn't require you to be both forum moderator and system operator.

Once you've set up the bulletin-board software and everything's in place, you need to make sure that your Web site visitors are aware of your forum.

You may need to modify the site's design or content to take advantage of your new bulletin board. This often entails adding a teaser to your site's pages – an element such as a provocative, prominently placed quotation that entices people to click on it and visit the forum.

It's hard to lure people to a bulletin board if they don't know it exists. Include links to the board in site-navigation tools, and add hyperlinks in other appropriate places – such as the top, middle, or bottom of articles, the index pages, or a "What's New" section. You can also use a juicy quote or question from the forum to show that its topics fit in with the rest of the site. This will help visitors make the shift from reading your site to participating in its forums.

Once you've arranged the furniture and determined the topic of conversation in your virtual salon, you're ready to throw open its doors to the public. You'll learn what the people who use your site really think about its content, and you'll be party to some amusing and informative conversations.

**Your tip of the month wins an hp deskjet 990cm**  
 We reward the tip of the month with an hp deskjet 990cm, worth £279.  
 This graphite colour-printer offers amazing image quality and speed, and  
 is bursting with gadgetry and cool extras.



Q&A/tips



- FireWire boot • Keyboard shutdown • Missing drivers

# Q&A/tips

Readers' questions answered, and handy tips. By Christopher Breen

## Delete Trash warning

**TIP** As fancy-pantsy as I find Mac OS X, there's one Classic Mac OS feature I desperately miss: the ability to turn off the Trash warning — you know, the message that indicates the number of items in the Trash and asks if you're sure you want to empty it. OK, so maybe I like to live dangerously, but this warning annoys me.

Although I can't turn off this warning for good, I'm not completely without options. I can skirt it — as I did in other versions of the Mac OS — by holding down the option key while selecting the Empty Trash command from the Finder menu.

## External boot

**Q** I have an iMac DV with a broken CD-ROM drive. But that's not the problem — I've added an external USB CD-RW drive. The difficulty is that my Mac won't boot from the hard drive, and with no internal CD-ROM, I can't boot from the iMac's Restore CD. What can I do?

Harold Landreth

**A** The secret to unraveling this mystery can be found on the right side of your iMac — it's the FireWire port. You'll also need a second Mac to get the job done.

For some time it's been possible to mount a PowerBook's internal drive from another Mac via SCSI using a protocol called Target Disk Mode (TDM, formerly termed SCSI Disk Mode). TDM is now supported via FireWire as well, which allows you to mount the hard drive of a "target" computer (your iMac) on another FireWire-capable "host" Mac. The target Mac must have shipped with a FireWire port (TDM doesn't support add-on FireWire cards for the target computer — just for the host Mac).

To make this FireWire brand of TDM work, the Macs involved must meet a few additional requirements. The host Mac must be running Mac OS 8.6 or later and FireWire 2.3.3 or later, and your target iMac must have Firmware 2.4 or later. Here's how to set it up.

First, remove any FireWire devices from both computers before you start. With the target computer off (the host Mac can be turned on), string a six-pin-to-six-pin FireWire cable (available from any good Mac mail-order house) between the target and the host Macs. Switch on the target

iMac, then press and hold the T key until you see a FireWire icon on the target Mac's screen. The icon for the target Mac's internal hard-drive should appear on the host Mac's desktop. Once you're there, repair the drive with a troubleshooting utility or insert the iMac's Software Install CD in the host Mac's CD-ROM drive and install a whole new system on the iMac's drive.

To exit TDM, drag the target Mac's hard-disk icon to the Trash and press the target Mac's power button.

## Eraser foot

**TIP** The rubber feet on my PowerBook G4 have fallen out. Rather than paying Apple for replacements, my 12-year-old son, Gethin, suggested using a cut down end of a pencil eraser — it fits perfectly. With a small drop of super glue the rubber foot is replaced.

Gareth Jordan

## Sherlock indexing

**Q** I recently purchased an iMac, and shortly thereafter indexed the drive with Sherlock. Since then I've installed two games, yet when I ask Sherlock to update the index, it tells me the process will take 12 hours. What can I do to speed things up?

Travis Rollman

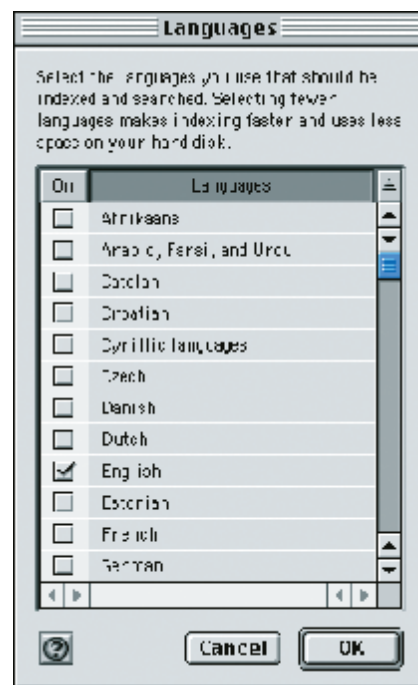
**A** I'd begin by not panicking. Clever as Sherlock may be, it's not terribly good at deducing how long it takes to index a drive when it first begins the process. If you were to sit with stopwatch in hand while Sherlock chugs through your drive, you'd find that its initial estimate is shockingly inaccurate.

That's not to suggest, however, that indexing a drive is a brisk procedure. It isn't, and because of this, it's best to begin the operation when you'll be away from your Mac for a while — overnight, for example.

You can automate the process by creating a schedule. To do so, select Index from Sherlock's Find menu and click on the Schedule button in the resulting dialog box. Select a convenient day and time for indexing to begin, and leave your Mac on during the appointed hour.

Bear in mind that you needn't index your entire

continues page 154



## Language barrier

To speed up indexing in Sherlock, simply switch off the languages you don't plan to use.



## Tip of the month: Keyboard shutdown

**TIP** On the new Apple Pro keyboards, you can mimic the old power button, by pressing control-eject. Pressing control-apple-eject will restart the machine.  
James Relp



*Congratulations to James Relp, he wins an hp deskjet 990cm printer. If you think you have a Tip of the month, send it to: qanda@macworld.co.uk*



drive. You can index a single file or folder by control-clicking on that item in the Finder and choosing Index Selection from the resulting contextual menu. You can also select Preferences from Sherlock's Edit menu and elect to index items by label – only those documents with an orange label, for example. In the same Preferences window, click on the Languages button and switch off all languages except English to further speed Sherlock's indexing.

### Express export

**Q** Outlook Express doesn't run on my Mac any longer, but I need the email it contains. Is there any way to retrieve my messages?  
Marty Harper

**A** A good start would be trying to get Outlook Express up and running again by re-installing it. However, if it's reluctant to do the job even after the re-install and you need your email right now, try this: go to [www.eudora.com](http://www.eudora.com) and download the latest version of Qualcomm's Eudora. When you first launch the program, it offers you the opportunity to import mail from other email clients. Choose Outlook Express from the pop-up menu in the Import Mail dialog box, then click on OK.

If Eudora's already installed, you can import your email by selecting the Import E-mail command from Eudora's File menu.

You can configure Eudora in three ways: Sponsored mode, where you get the full version of the program for free, but have to look at some fairly unobtrusive advertisements; Paid mode, a full version without ads; and Light mode, a free limited version without ads but offering fewer features. Eudora is also available in a Mac OS X-native form.

### Dozy PowerBooks

**Q** Recently, whenever I put my PowerBook to sleep, it refuses to wake up. What can I do?  
Zoe Sarantis

**A** We've seen this question a few times, and for good reason. PowerBooks can be devilishly difficult to awaken at times. I wish I could provide a single fix, but unfortunately there appears to be no universal solution. Therefore, allow me to enumerate some of the usual suspects.

Start by examining your extensions, control panels, and applications. For example, MenuFonts, a component of Extensis's Suitcase, can create a conflict that disables a PowerBook G4's keyboard when you awaken that PowerBook. Some users have found that switching on the Control Strip causes sleep problems in PowerBooks. And still others claim that a PowerBook wakes more readily if you use the Special menu's Sleep command rather than just closing the notebook's lid. TCP/IP can also be a source of trouble for some PowerBooks. Apple

claims that if TCP/IP is set to Active and can't establish an Internet connection, a PowerBook may pause for as long as five minutes when it tries to wake from sleep. If you're thus afflicted, Apple suggests that you set TCP/IP to Inactive and select the Load Only When Needed option.

Mac OS X has its wake-from-sleep issues as well. There have been reports, for example, that having a Classic application at the forefront while putting your PowerBook to sleep can make the device more difficult to rouse.

The key to treating a soporific PowerBook lies mostly in your powers of observation. If you've recently changed something about your PowerBook – say you installed new hardware or software – and your portable pal refuses to leave its state of slumber, try undoing your recent actions and see if the problem disappears.

### Noisy kids

**Q** I teach a variety of computer skills in an iMac-based lab. Although I've muted the sound on the iMacs, my students download RealPlayer and play music during class. What can I do to keep the sound muted, short of removing the iMacs' speakers?  
Carrie Nichols

**A** Having been a teacher earlier in my life, I understand how difficult it can be to restrain the youthful enthusiasm of your students – particularly when that energy drives them to blast the latest adenoidal Atomic Kitten single from one end of school to the other. Though I believe the shortest route to a solution is to threaten the little blighters with expulsion should more than the default alert sound emerge from the lab's iMacs, I understand that may not be an option. You ask in particular about shutting off sound on these iMacs, but the overarching question really is: how can I keep prying little hands and minds from screwing around with system settings in a multi-computer environment? There are a couple of answers – one built-in and another available through a third party. Let's begin with the built-in solution.

With Mac OS 9, Apple introduced Multiple Users – a combination control panel and extension that allows a Mac's administrator (the owner) to create individual user accounts on that computer and limit what people using them can do. For example, you can configure the lab's iMacs so your students can use only AppleWorks.

One of Multiple Users' niftier features is its ability to bar access to control panels. This is how we'll mute your iMacs. First, create a new user account in the Multiple Users control panel and give that user Normal privileges – freedom to do anything he or she wants on the iMac. Log out of the owner account and log in as the user you just

created. Open the Sound control panel and click on the Mute button – this silences the iMac. But there are still two other ways to make it speak. Let's silence them as well.

Open the Keyboard control panel, click on the Function Keys button in the resulting window, and deselect the Use F1 Through F15 As Hot Function Keys option. You've now disabled the Volume Up, Volume Down, and Mute buttons on your iMacs' keyboards. Open the Control Strip control panel and select the Hide Control Strip option. This prevents your students from using the Control Strip to jack up the iMacs' volume.

When you've run through this rigmarole, log out of that user account (by selecting Logout from the Finder's Special menu), and then log back in as the owner. Next, open the Multiple Users control panel and assign Limited privileges to the user account you created. Finally, click on the Show Setup Details triangle, select the Privileges tab, and make sure that the user doesn't have access to the Control Panels folder.

What have you accomplished? Anyone using the account you just configured shouldn't hear a peep out of that computer and, unless he or she circumvents Multiple Users, can't restore sound to the iMac. As you can probably see, this kind of chicanery can serve any number of prohibitive purposes. You can keep your kids from dimming the iMacs' screens, changing the screen resolution, playing QuickTime movies, ect. With some careful planning you can make your labful of iMacs just no fun at all.

If that's too much bother and your school has a reasonably meaty budget, install a more robust security program intended for classroom use. With an application such as Power On Software's On Guard (£40; Computers Unlimited, 020 8200 8282; [www.poweronsoftware.com](http://www.poweronsoftware.com)), you can determine what your students can and can't do with the lab's iMacs – and you can configure the whole mess from a single administrator's computer. On Guard isn't secure enough for government work, but for a supervised computer lab, it should do the job nicely.

### Opening .doc files

**TIP** If you cannot open a .doc email attachment you can change .doc to .html and drop it onto Internet Explorer. You don't keep the layout, but you can read, copy or print the main body of text.

Max Hanuy

### AppleWorks updates

**TIP** If you have CarbonLib 1.3.1 or later installed and extensions switched off, the AppleWorks 6.2 Installer Update will refuse to launch. To fix the problem restart with extensions switched on and then run the installer.

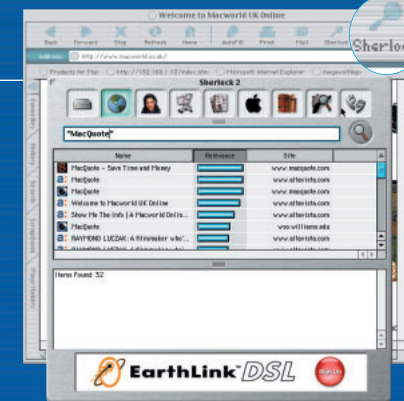
### Missing drivers

**Q** I have an Epson Photo 875 DC printer. When I installed Mac OS X some months ago, the printer was not supported. I contacted Apple and was told to contact Epson on the matter. I did this, and, to give Epson its due, received answers to all my enquiries. However, for all this, there is still no driver compatible with OS X for this printer on Epson's download page, nor for many of its older

## Explore Sherlock

**TIP** You can add a Sherlock button to your Internet Explorer 5 tool bar (View: Customize Toolbars), but under Mac OS 9.1 it's inactive. To make it active you must replace the Sherlock 2 alias in the Apple Menu Items folder with the actual Sherlock 2 application (found inside the Applications folder at the root level of your hard drive). Internet Explorer Help incorrectly states that the Sherlock application gets placed in the Apple Menu Items folder by default.

Steve Gier



printers. For several months now I have had to revert to OS 9.1 in order to print documents, which is a real pain. Perhaps Apple might include more printer drivers for some of us with the release of OS X 10.1?

Mike Crump

**A** Most Epson printers, scanners and digital cameras with built-in USB interfaces or Epson network interfaces will work in the Mac OS X Classic environment when using the latest Epson drivers for Macintosh computers. Epson will produce Mac OS X drivers for further products in the future. When schedules are available they will be published at the 'Download' section at [www.epson.co.uk/support/download/os\\_x\\_notice.htm](http://www.epson.co.uk/support/download/os_x_notice.htm)

### iApp back-up

**TIP** Apple newest Power Macs – the "QuickSilver" models – don't include individual discs containing iMovie and iDVD. The only way to reinstall these applications is to run the Apple Software Restore disc. Regrettably, Apple Software Restore doesn't allow you to pick and choose which components you'd like to install. Rather, it simply reinstalls everything.

It might serve you well to burn backup copies of iMovie and iDVD onto CD-R discs (along with their support files). That way, should you lose them, you can restore just those applications.

### Portable sound

**TIP** If you mute the sound on your PowerBook G4, PowerBook G3 Series, PowerBook (FireWire), Power Mac G4 Cube, or iMac (Summer 2000) while running Mac OS X 10.0.4 and put that computer to sleep, you may notice that it's back to its old noisy self when awakened.

To put things right you must open System Preferences, click the Sound preference, and deselect and then reselect the mute option.

### Word file saving

**TIP** If you have File Sharing enabled and attempt to save a Word 2001 document more than 60 times in a single session, you'll receive a Disk Full error and won't be able to save your document to a local disk. If File Sharing is disabled, you can save up to 250 times before you receive this error. MW

### iBook burn-out

**TIP** Apple appears to be a little fuzzy on whether you can use an external monitor and keyboard with the new dual-USB iBook. An Apple tech note reads: "You should not close the display lid of an iBook (Dual USB) computer while using an external keyboard and monitor." It then goes on to say: "You cannot use the iBook (Dual USB) computer with an external keyboard and monitor." Regardless of whether you can or can't use the iBook with an external keyboard and monitor, it's a bad idea to try to attach these devices and then close the iBook's lid. If you close the lid with these devices attached, the iBook may not go to sleep. And if it doesn't go to sleep, it will continue to produce heat. This heat, now trapped beneath the closed lid of the iBook, could cook your portable pal.



Macworld's chief sub-editor Woody Phillips and contributing editor Christopher Breen answer readers' questions and select reader-submitted tips for this column. Send your question or tip (include your address and phone number) to Q&A, Macworld, 99 Gray's Inn Road, London WC1X 8UT. You can also send an email, marked Q&A in the subject line, to [qanda@macworld.co.uk](mailto:qanda@macworld.co.uk). We pay £25 for each tip published here. We cannot make personal replies, so please do not include a stamped addressed envelope.





Why can't we look beyond visual interfaces, and unlock the Mac's potential?

## Speech impediment

**'After 17 years of experience as Macintosh users and developers, have we all agreed that we got it perfect the first time?'**

If I live to be 100, I'll never stop telling people that all Randy Newman songs sound like toilet-paper jingles. Similarly, when it comes to Mac OS X's Aqua interface, I will never tire of asserting that the colours of a traffic signal do not make a user think of closing, minimizing, and maximizing. Closing a window does not stop anything, and maximizing one doesn't make anything go – and what's so cautious about putting a window into the Dock?

I do like Aqua. It prettified the Mac – all that on-screen shadowing, highlighting, melting, and throbbing make for an interface that's easier to navigate. It's a great face-lift. But what if Apple went for more than a face-lift?

Let me tell you about an idea I recently had. Like most of my ideas, it came to me while I was napping on my sofa and avoiding work. While I napped and evaded, my G4 Cube called out, telling me I had new mail.

Big deal. It happens all the time, now that my Internet connection is on 24/7. This time, though – possibly owing to my having had three sodas in the space of 40 minutes – my eyes were open: Wait, this just might be incredibly cool. I had access to the G4 without physical proximity or any sort of device or accessory. I got information from it without having to turn my head, even.

Why don't we normally think of speech as a user interface? Because it involves no pointing devices or bouncing icons? Is that any excuse? That's when my idea hit. As usual, it involved spending a lot of money.

I came home with six omnidirectional microphones, a line-level amp, and a cheap mixer. Three or four missed deadlines later, I had wired my entire office for sound. Through discreetly placed microphones, my G4 could receive voice input from anywhere in my big office-cum-den.

Now when my computer says: "You have new mail," I can reply, "Is it important?" And unless Mailsmith sees a message from someone I've designated Important, the G4 advises me that I needn't stir from my sofa.

I enjoyed that so much that I expanded the system in both coverage and capability. I have another six mikes scattered across the house – in the kitchen, near my front door, and in the TV room – and a couple dozen new scripts that do things way more interesting than fool with my mail. None of this is rocket science.

It all exploits standard features of Mac OS 9. In fact, the lack of sophistication is my sole disappointment with this system. My Mac doesn't actually parse these sentences. When I awaken and groggily ask the PowerBook on my nightstand to "get me the morning news", I'm

really firing up an AppleScript with that exact title, which opens all of the URLs within a Morning News folder.

Speech is the most obvious unexploited resource in the user-interface world. IBM and MacSpeech have made great leaps with their speech products, but these products are still not much more than keyboard replacements. I've got a keyboard. What I want is a utility that can take a sentence like: "Convert that big manuscript I worked on last night to HTML, and email it to Jason," and turn it into the command: "Look for a Word file larger than 20K, last modified yesterday after 5 p.m. If there's only one, convert it to HTML, and if there's only one Jason in the address book, email it to him; otherwise, ask me which Jason I mean." And this is doable. The success with which iListen and ViaVoice can turn voice into text and the ease with which the Newton OS was able to parse complex commands prove it.

Since 1984, the capabilities of personal computers have increased exponentially. But the interface itself hasn't taken any significant steps forward – it still consists of an on-screen pointer that acts on a collection of menus, windows, and icons. Aqua is a highly valuable and experience-enriching face-lift – but it's just a face-lift. After 17 years of experience as users and developers, have we all agreed that we got it perfect the first time? Or have we simply grown complacent and abandoned the quest for anything better?

The scariest notion is that little by little, Windows and even Linux are starting to catch up to the Mac, at least in terms of the interface. I installed a beta of Windows XP the other day, and my jaw dropped: at last, the GUI doesn't look like someone designed it on an Etch A Sketch. Thank heavens Microsoft stopped putting the year of release into the name. We currently go around spraying "Windows 98 = Mac OS '90" on highway overpasses, but "Windows 2001 = Mac OS Early '99" wouldn't really have the same punch.

But for all its advances, even Windows XP boils down to click, double-click, drag. As Macintosh users, we expect more. We want to speak, acknowledge, walk away because the Mac can take it from there. Or we want our screens to resemble the flattened front of a virtual sphere that we can spin to reveal new views of the Internet, the file system, or the user experience. Changing the interface for change's sake is dippy. We see the result every time users running Mac OS X want to close a window but hesitate, momentarily unsure if they're choosing "stop using this window" or "I'm done; this window may now go."

But it's also true that the only difference between a rut and a grave is their depth.

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